performance ■ oem ■ aftermarket

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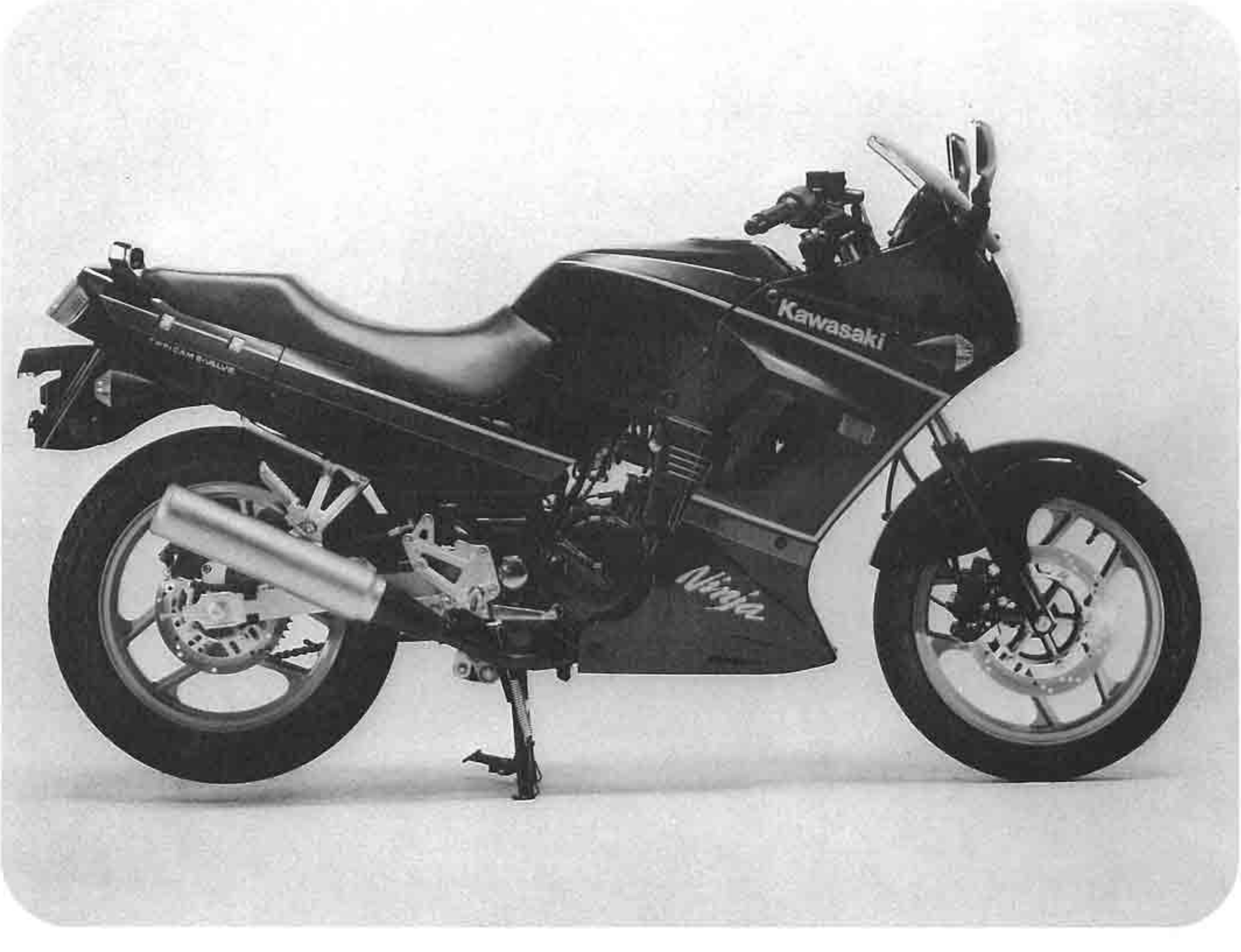
Kawasaki

Ninja250R
GPX250R



Motorcycle
Service Manual
Supplement

Quick Reference Guide

General Information 1
Fuel System 2
Cooling System 3
Engine Top End 4
Clutch 5
Engine Lubrication System 6
Engine Removal/Installation 7
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This quick reference guide will assist you in locating a desired topic or procedure.

- Bend the pages back to match the black tab of the desired chapter number with the black tab on the edge at each table of contents page.
- Refer to the sectional table of contents for the exact pages to locate the specific topic required.

Kawasaki

Ninja250
GPX250R

Motorcycle Service Manual Supplement

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The right is reserved to make changes at any time without prior notice and without incurring an obligation to make such changes to products manufactured previously. See your Motorcycle dealer for the latest information on product improvements incorporated after this publication.

All information contained in this publication is based on the latest product information available at the time of publication. Illustrations and photographs in this publication are intended for reference use only and may not depict actual model component parts.

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LIST OF ABBREVIATIONS

A	ampere(s)	lb	pound(s)
ABDC	after bottom dead center	m	meter(s)
AC	alternating current	min	minute(s)
ATDC	after top dead center	N	newton(s)
BBDC	before bottom dead center	Pa	pascal(s)
BDC	bottom dead center	PS	horsepower
BTDC	before top dead center	psi	pound(s) per square inch
°C	degree(s) Celsius	r	revolution
DC	direct current	rpm	revolution(s) per minute
F	farad(s)	TDC	top dead center
°F	degree(s) Fahrenheit	TIR	total indicator reading
ft	foot, feet	V	volt(s)
g	gram(s)	W	watt(s)
h	hour(s)	Ω	ohm(s)
L	liter(s)		

a

WARNING CONTAINS ASBESTOS

Breathing asbestos dust is dangerous to health

Follow safety instructions

This warning may apply to any of the following components or any assembly containing one or more of these components:—

Brake Shoes or Pads
Clutch Friction Material
Gaskets
Insulators

SAFETY INSTRUCTIONS

- Operate if possible out of doors or in a well ventilated place.
- Preferably use hand tools or low speed tools equipped, if necessary, with an appropriate dust extraction facility. If high speed tools are used, they should always be so equipped.
- If possible, dampen before cutting or drilling.
- Dampen dust and place it in properly closed receptacle and dispose of it safely.

Read OWNER'S MANUAL before operating.

EMISSION CONTROL INFORMATION

To protect the environment in which we all live, Kawasaki has incorporated crankcase emission (1) and exhaust emission (2) control systems in compliance with applicable regulations of the United States Environmental Protection Agency and California Air Resources Board. Additionally, Kawasaki has incorporated an evaporative emission control system (3) in compliance with applicable regulations of the California Air Resources Board on vehicles sold in California only.

1. Crankcase Emission Control System
   This system eliminates the release of crankcase vapors into the atmosphere. Instead, the vapors are routed through an oil separator to the intake side of the engine. While the engine is operating, the vapors are drawn into combustion chamber, where they are burned along with the fuel and air supplied by the carburetion system.
2. Exhaust Emission Control System
   This system reduces the amount of pollutants discharged into the atmosphere by the exhaust of this motorcycle. The fuel and ignition systems of this motorcycle have been carefully designed and constructed to ensure an efficient engine with low exhaust pollutant levels.
3. Evaporative Emission Control System
   Vapors caused by fuel evaporation in the fuel system are not vented into the atmosphere. Instead, fuel vapors are routed into the running engine to be burned, or stored in a canister when the engine is stopped. Liquid fuel is caught by a vapor separator and returned to the fuel tank.

The Clean Air Act, which is the Federal law covering motor vehicle pollution, contains what is commonly referred to as the Act's "tampering provisions."

"Sec. 203(a) The following acts and the causing thereof are prohibited...

(3)(A) for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title prior to its sale and delivery to the ultimate purchaser, or for any manufacturer or dealer knowingly to remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser.

(3)(B) for any person engaged in the business of repairing, servicing, selling, leasing, or trading motor vehicles or motor vehicle engines, or who operates a fleet of motor vehicles knowingly to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title following its sale and delivery to the ultimate purchaser..."

(Continued on next page.)

NOTE

- *The phrase "remove or render inoperative any device or element of design" has been generally interpreted as follows:*
  1. *Tampering does not include the temporary removal or rendering inoperative of devices or elements of design in order to perform maintenance.*
  2. *Tampering could include:*
     - *a. Maladjustment of vehicle components such that the emission standards are exceeded.*
     - *b. Use of replacement parts or accessories which adversely affect the performance or durability of the motorcycle.*
     - *c. Addition of components or accessories that result in the vehicle exceeding the standards.*
     - *d. Permanently removing, disconnecting, or rendering inoperative any component or element of design of the emission control systems.*

WE RECOMMEND THAT ALL DEALERS OBSERVE THESE PROVISIONS OF FEDERAL LAW, THE VIOLATION OF WHICH IS PUNISHABLE BY CIVIL PENALTIES NOT EXCEEDING $10,000 PER VIOLATION.

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED

Federal law prohibits the following acts or the causing thereof: (1) The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below:

- Replacement of the original exhaust system or muffler with a component not in compliance with Federal regulations.
- Removal of the muffler(s) or any internal portion of the muffler(s).
- Removal of the air box or air box cover.
- Modifications to the muffler(s) or air intake system by cutting, drilling, or other means if such modifications result in increased noise levels.

Foreword

This EX250F Service Manual Supplement is designed to be used in conjunction with the Ninja 250R (GPZ250R) Service Manual (P/N 99924-1066-01). The maintenance and repair procedures described in this supplement are only those that are unique to the EX250F. Most service operations for these models remain identical to those described in the base Service Manual. Complete and proper servicing of the EX250F therefore requires both this supplement and the base Service Manual.

This manual is designed primarily for use by trained mechanics in a properly equipped shop. However, it contains enough detail and basic information to make it useful to the owner who desires to perform his own basic maintenance and repair work. A basic knowledge of mechanics, the proper use of tools, and workshop procedures must be understood in order to carry out maintenance and repair satisfactorily. Whenever the owner has insufficient experience or doubts his ability to do the work, all adjustments, maintenance, and repair should be carried out only by qualified mechanics.

In order to perform the work efficiently and to avoid costly mistakes, read the text, thoroughly familiarize yourself with the procedures before starting work, and then do the work carefully in a clean area. Whenever special tools or equipment are specified, do not use makeshift tools or equipment. Precision measurements can only be made if the proper instruments are used, and the use of substitute tools may adversely affect safe operation.

For the duration of the warranty period, we recommend that all repairs and scheduled maintenance be performed in accordance with this service manual. Any owner maintenance or repair procedure not performed in accordance with this manual may void the warranty.

To get the longest life out of your vehicle:

- Follow the Periodic Maintenance Chart in the Service Manual.
- Be alert for problems and non-scheduled maintenance.
- Use proper tools and genuine Kawasaki Motorcycle parts. Special tools, gauges, and testers that are necessary when servicing Kawasaki motorcycles are introduced by the Service Manual. Genuine parts provided as spare parts are listed in the Parts Catalog.
- Follow the procedures in this manual carefully. Don't take shortcuts.
- Remember to keep complete records of maintenance and repair with dates and any new parts installed.

How to Use This Manual

In this manual, the product is divided into its major systems and these systems make up the manual's chapters.

The Quick Reference Guide shows you all of the product's system and assists in locating their chapters. Each chapter in turn has its own comprehensive Table of Contents.

For example, if you want ignition coil information, use the Quick Reference Guide to locate the Electrical System chapter. Then, use the Table of Contents on the first page of the chapter to find the ignition coil section.

Whenever you see these WARNING and CAUTION symbols, heed their instructions! Always follow safe operating and maintenance practices.

⚠ WARNING

This warning symbol identifies special instructions or procedures which, if not correctly followed, could result in personal injury, or loss of life.

CAUTION

This caution symbol identifies special instructions or procedures which, if not strictly observed, could result in damage to or destruction of equipment.

This manual contains four more symbols (in addition to WARNING and CAUTION) which will help you distinguish different types of information.

NOTE

○*This note symbol indicates points of particular interest for more efficient and convenient operation.*

●Indicates a procedural step or work to be done.

○Indicates a procedural sub-step or how to do the work of the procedural step it follows. It also precedes the text of a NOTE.

★Indicates a conditional step or what action to take based on the results of the test or inspection in the procedural step or sub-step it follows.

In most chapters an exploded view illustration of the system components follows the Table of Contents. In these illustrations you will find the instructions indicating which parts require specified tightening torque, oil, grease or a locking agent during assembly.

General Information

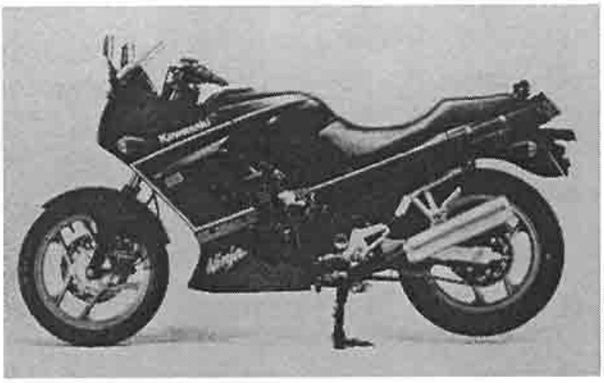
Table of Contents

Before Servicing . . . . *
Model Identification 1-2
General Specifications. 1-4
Wiring, Cable, or Hose Routing 1-6
Torque and Locking Agent 1-11
Periodic Maintenance Chart. 1-15

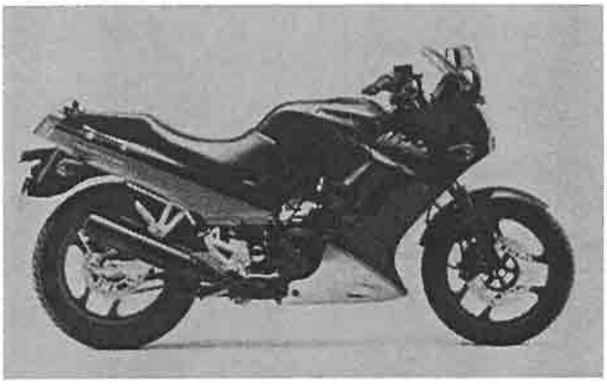
* : Base Manual

Model Identifications

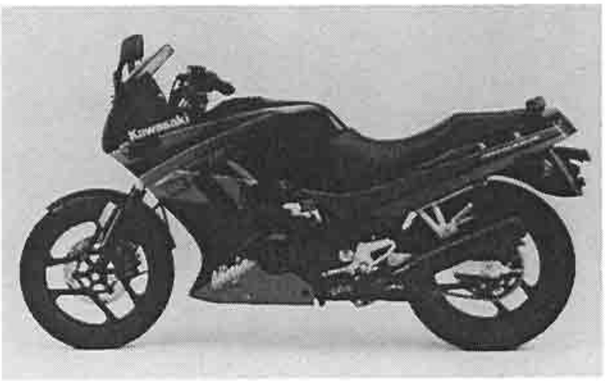
EX250-F2, F3, F4 (US Model)



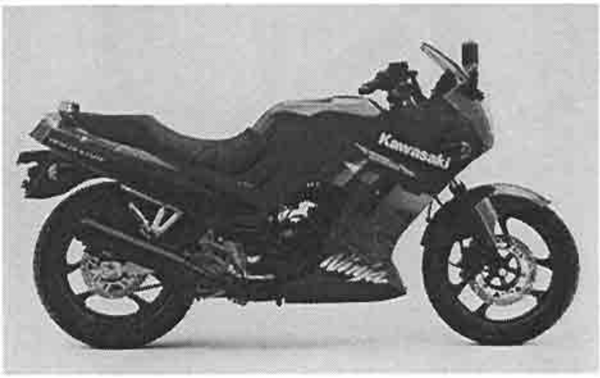
EX250-F6



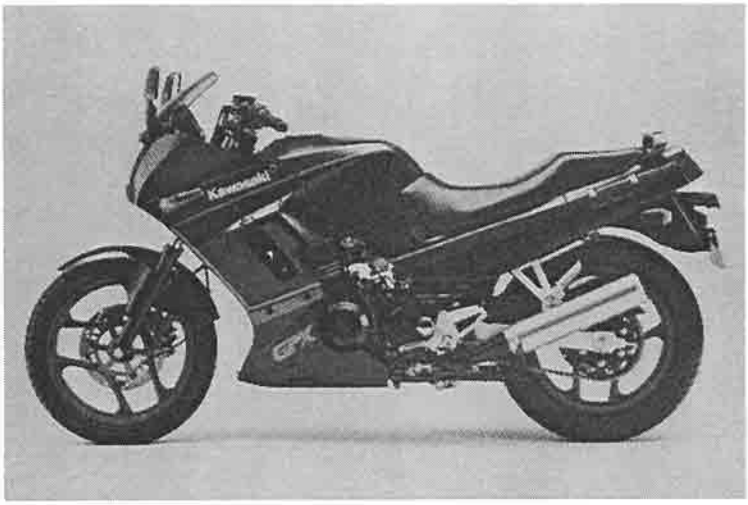
EX250-F7, F8, F9, F10



EX250-F11



EX250-F2, F3, F4 (European or General Models)



EX250-F6

EX250-F7, F8, F9

General Specifications

Items		EX250-F2 ~ F13
Dimensions:		
Overall length		2 035 mm
Overall width		710 mm
Overall height		1 095 mm
Wheelbase		1 400 mm
Road clearance		155 mm
Seat height		745 mm
Dry weight		138 kg, (CA) 138.5 kg
Curb weight:	Front	76 kg
	Rear	85 kg, (CA) 85.5 kg
Fuel tank capacity		18.0 L
Performance:		
Minimum turning radius		2.8 m
Engine:		
Type		4-stroke, DOHC, 2-cylinder
Cooling system		Liquid-cooled
Bore and stroke		62.0 × 41.2 mm
Displacement		248 mL
Compression ratio		12.4
Maximum horsepower		27.9 kW (38 PS) @ 11 000 r/min (rpm), (US) –, (AS) 27.9 kW (38 PS) @ 12 000 r/min (rpm)
Maximum torque		24.5 N·m (2.5 kgf·m, 18.1 ft·lb) @ 10 000 r/min (rpm), (US) –
Carburetion system		Caburetors, Keihin CVK30 × 2
Starting system		Electric starter
Ignition system		Battery and coil (transistorized)
Timing advance		Electronically advance
Ignition timing		From 10°BTDC @ 1 300 r/min (rpm) to 42°BTDC @ 4 500 r/min (rpm), (CA) From 5°BTDC @ 1 300 r/min (rpm) to 42°BTDC @ 4 500 r/min (rpm)
Spark plug	STD	NGK C8HA or ND U24FS-L, (C)(B)(E) NGK CR8HSA or ND 24FS-U
	Option	NGK CR7HS or ND 22FS-L, (C)(B)(E) NGK CR7HSA or ND U22FS-U
Cylinder numbering method		Left to right, 1-2

(Continued on next page.)

Items			EX250-F2, F3, F4, F6, F7	EX250-F8 ~ F13
Firing order			1-2	
Valve timing:	Inlet	Open	26° BTDC	30° BTDC
		Close	66° ABDC	70° ABDC
		Duration	272°	280°
	Exhaust	Open	66° BBDC	70° BBDC
		Close	26° ATDC	30° ATDC
		Duration	272°	280°
Lubrication system			Forced lubrication (wet sump)	
Engine oil:	Grade		SE or SF class	
	Viscosity		SAE 10W-40, 10W-50, 20W-40, or 20W-50	
	Capacity		1.9 l	
Drive Train:				
Primary reduction system:		Type	Gear	
		Reduction ratio	3.806 (71/23)	
Clutch type			Wet multi disc	
Transmission:	Type		6-speed, constant mesh, return shift	
	Gear ratio:	1st	2.600 (39/15)	
		2nd	1.789 (34/19)	
		3rd	1.409 (31/22)	
		4th	1.160 (29/25)	
		5th	1.000 (27/27)	
		6th	0.892 (25/28)	
Final drive system:		Type	Chain drive	
		Reduction ratio	3.214 (45/14)	
		Overall drive ratio	8.859 @ Top gear	
Frame				
Type			Tubular, diamond	
Caster (rake angle)			27°	
Trail			83 mm	
Front tire:		Type	Tubeless	
		Size	100/80-16 50S	
Rear tire:		Type	Tubeless	
		Size	130/80-16 64S	
Front suspension:		Type	Telescopic fork	
		Wheel travel	140 mm	
Rear suspension:		Type	Swing arm (Uni-Trak)	
		Wheel travel	130 mm	
Brake type:		Front	Single disc	
		Rear	Single disc	

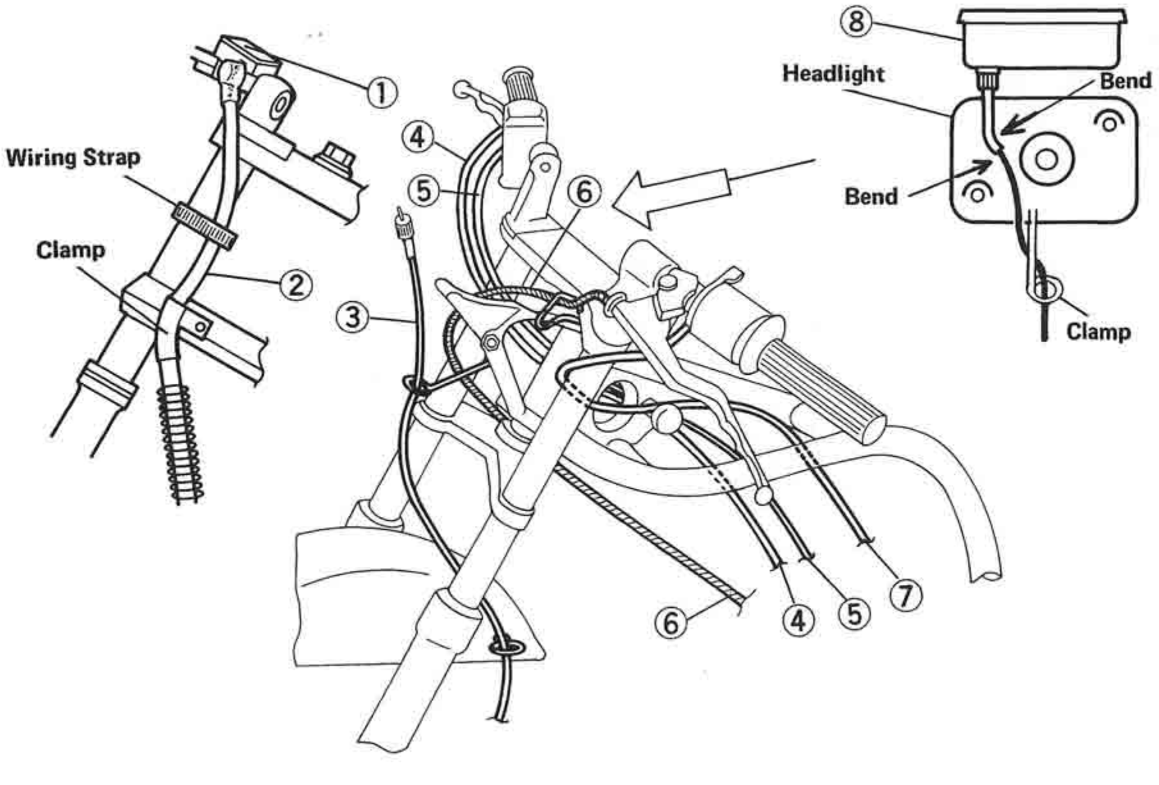
(Continued on next page.)

Items		EX250-F2 ~ F13
Electrical Equipment		
Battery		EX250-F2 ~ F8: 12 V 8Ah, EX250-F9 ~: 12 V 6Ah
Headlight:	Type	Semi-sealed beam
	Bulb	12 V 60/55 W (quartz-halogen)
Tail/brake light		12 V 8/27 W × 2, (A)(B)(E) 12 V 5/21 W × 2
Alternator:	Type	Three-phase AC
	Rated output	17A @ 10 000 r/min (rpm), 14V

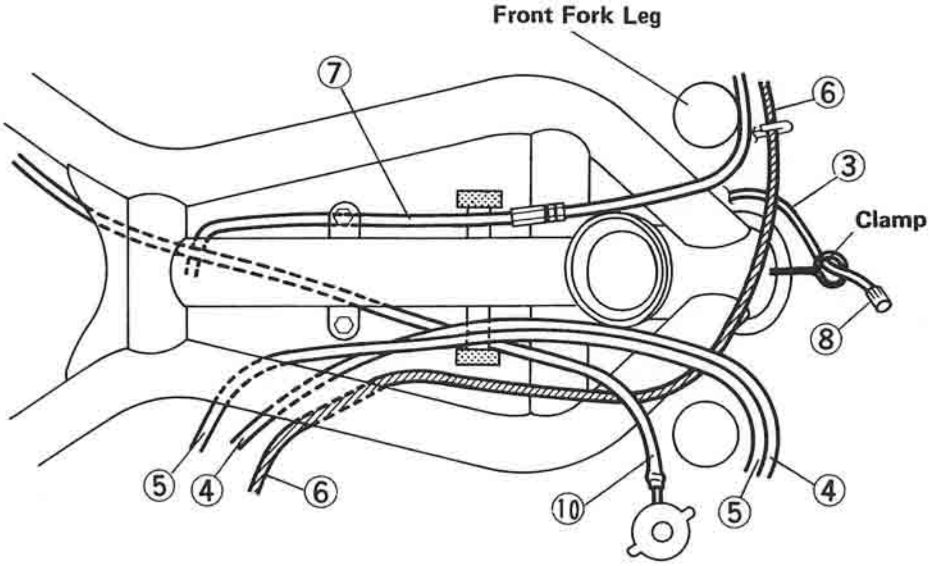
Specifications are subject to change without notice and may not apply to every country.

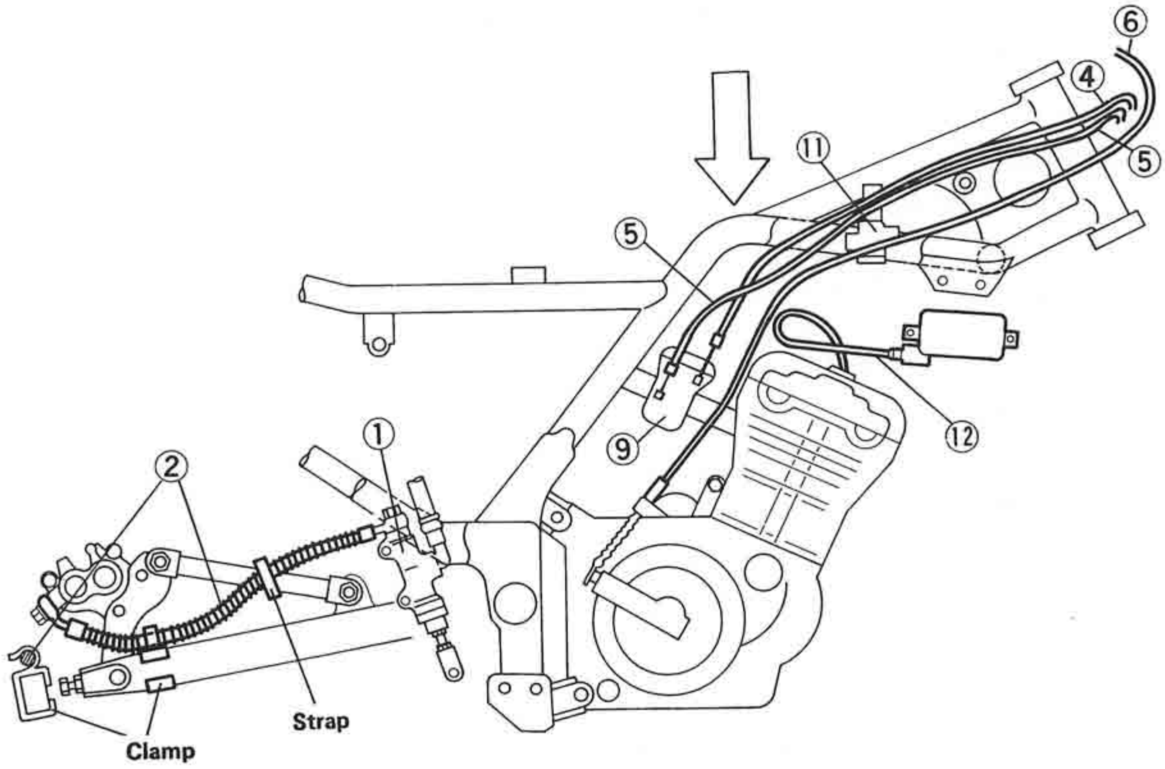
(A) Australia Model
(B): UK Model
(CA): California Model
(E): European Model
(US): U.S Model

Wiring,Cable, or Hose Routing

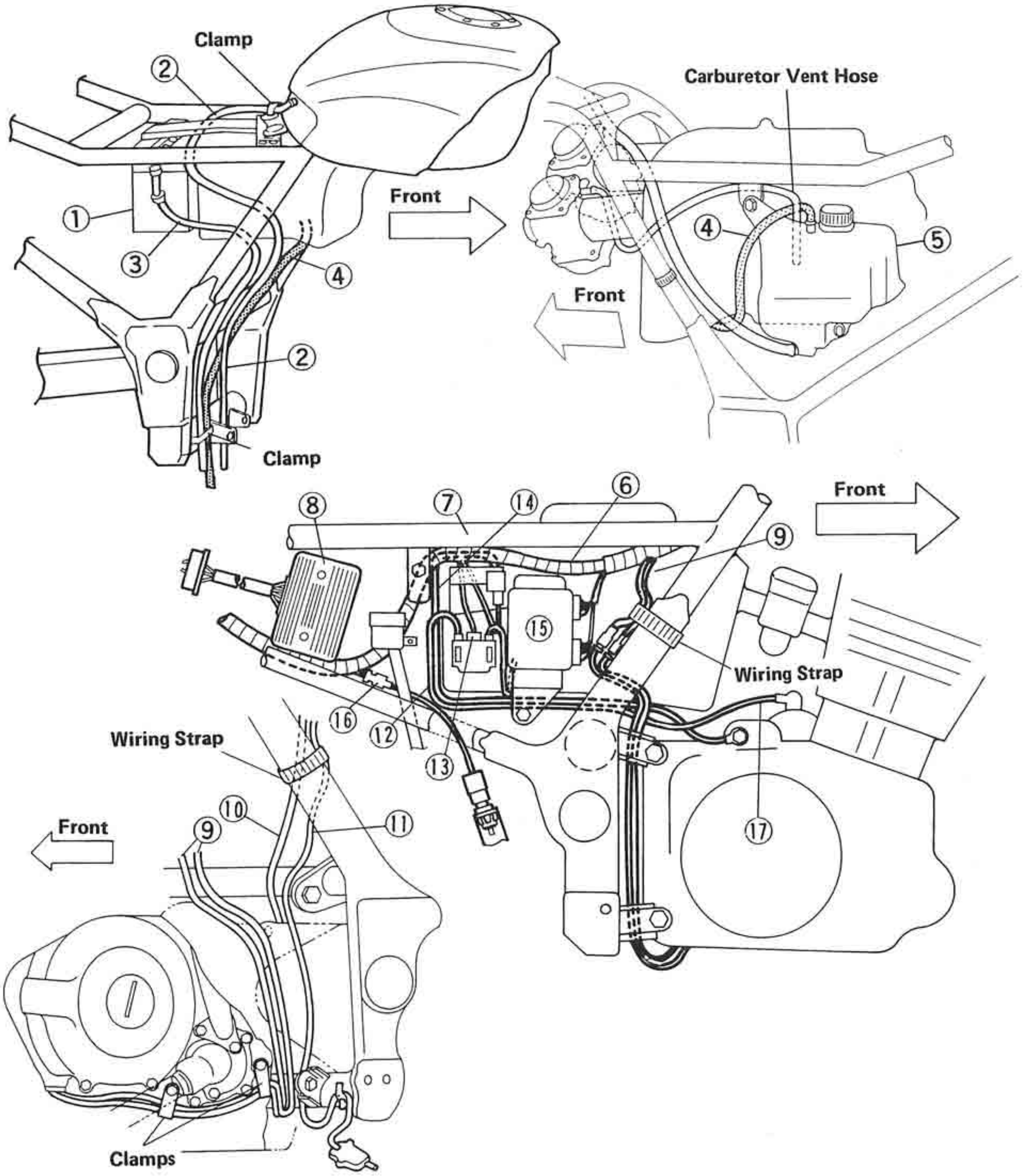


1. **Front Brake Fluid Reservoir**
2. **Brake Hose**
3. **Speedometer Cable**
4. **Throttle Cable (Decelerator)**
5. **Throttle Cable (Accelerator)**
6. **Clutch Cable**
7. **Choke Cable**
8. **Meter Unit**

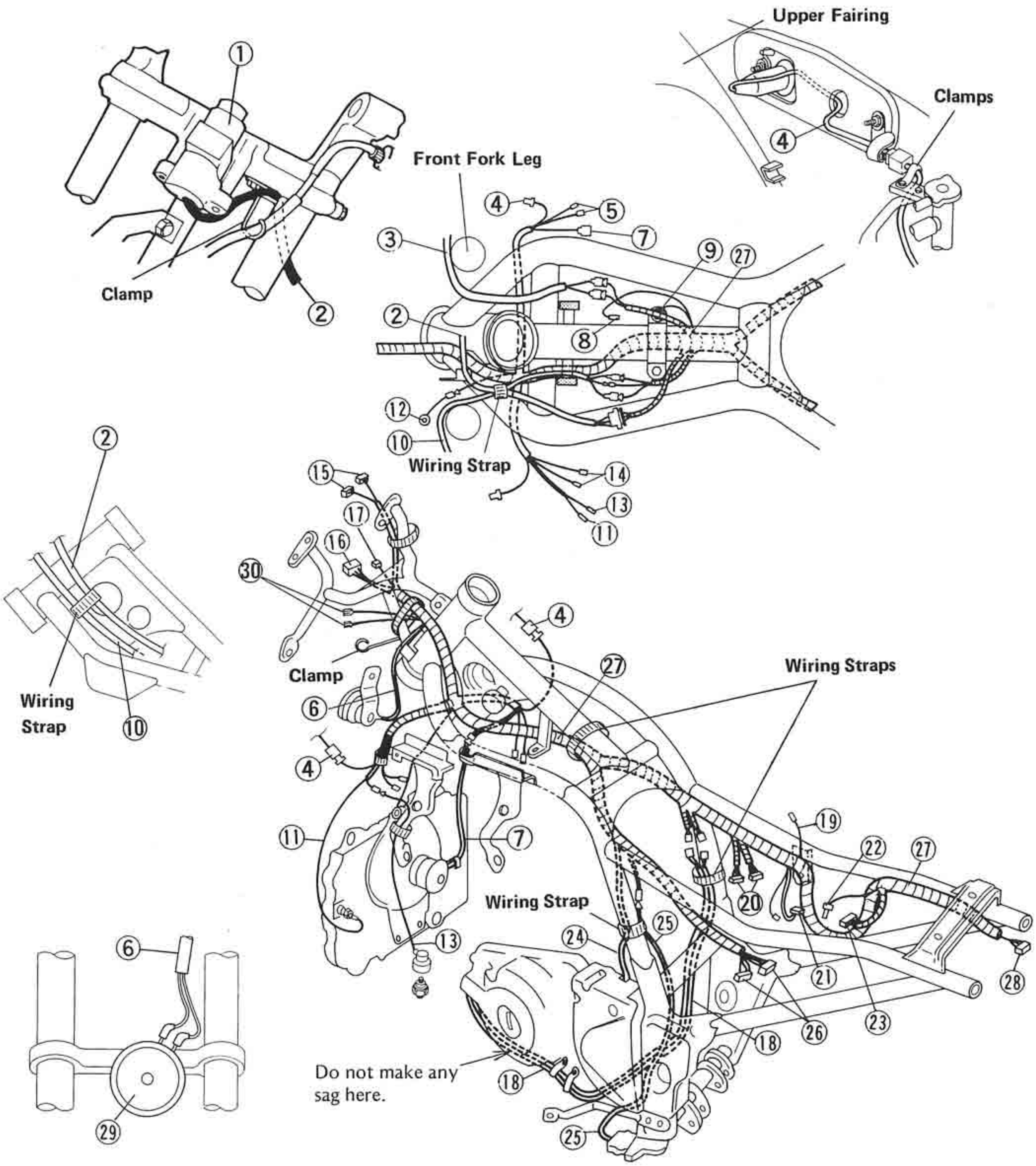




1. **Rear Brake Master Cylinder**
2. **Brake Hose**
3. **Speedometer Cable**
4. **Throttle Cable (decelerator)**
5. **Throttle Cable (accelerator)**
6. **Clutch Cable**
7. **Choke Cable**
8. **To Meter Unit**
9. **Carburetor**
10. **Coolant Reservoir Tank Hose**
11. **Thermostat Housing**
12. **Spark Plug Leads**



1. Battery
2. Fuel Tank Drain Hose
3. Battery Vent Hose
4. Coolant Reservoir Tank Vent Hose
5. Coolant Reservoir Tank
6. Main Harness
7. Frame Tube
8. Regulator/Rectifier
9. Alternator, Pickup Coil Leads
10. Neutral Switch Lead
11. Side Stand Switch Lead
12. To Starter Relay Negative Terminal
13. Starter Relay Connector
14. Battery Ground Cable
15. Junction Box
16. Brake Switch Connector
17. Starter Motor Cable

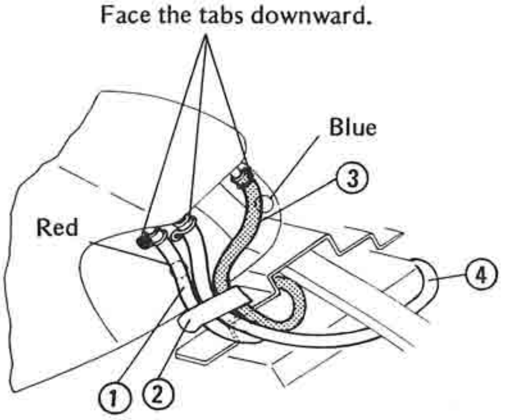


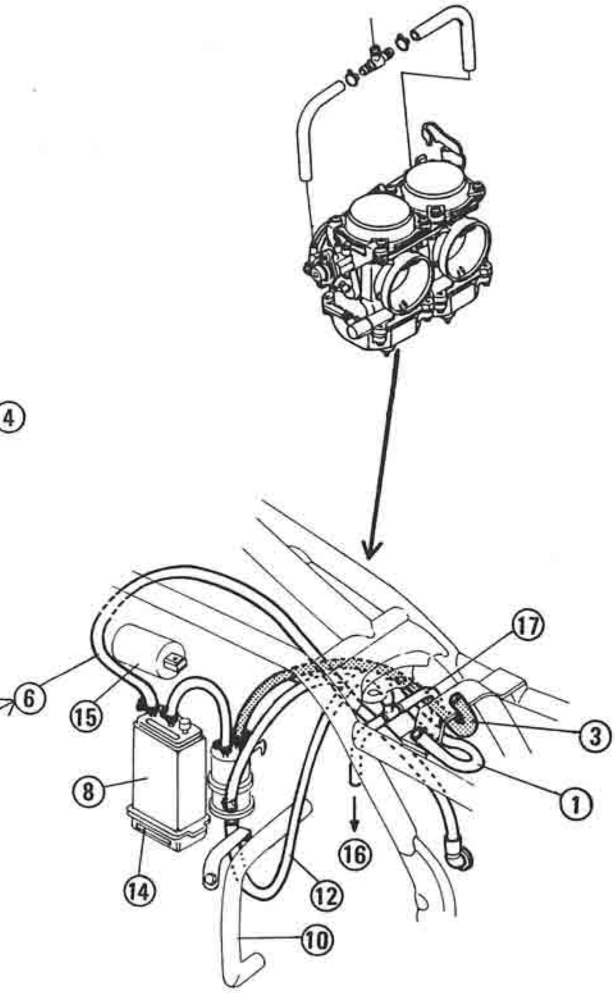
Do not make any sag here.

1. **Ignition Switch**
2. **Ignition Switch Lead**
3. **To Right Handlebar Switch**
4. **Turn Signal Connectors**
5. **To #2 Ignition Coil**
6. **Horn Lead**
7. **Fan Motor Lead**
8. **Water Temperature Sensor Lead**
9. **Water Temperature Sensor Ground Lead**
10. **To Left Handlebar Switch**
11. **Fan Switch Lead**
12. **Fan Switch Ground Lead**
13. **Oil Pressure Switch Lead**
14. **To #1 Ignition Coil**
15. **Meter Connectors**
16. **Headlight Connector**
17. **City Light Connector**
18. **Alternator, Pickup Coil Leads**
19. **To Battery Ground Terminal**
20. **Junction Box Connectors**
21. **Starter Relay Connector**
22. **Brake Light Switch Connector**
23. **Regulator/Rectifier Connector**
24. **Neutral Switch Lead**
25. **Side Stand Switch Lead**
26. **Igniter Connectors**
27. **Main Harness**
28. **Taillight, Turn Signal Light Connector**
29. **Horn**
30. **Accessary Leads**

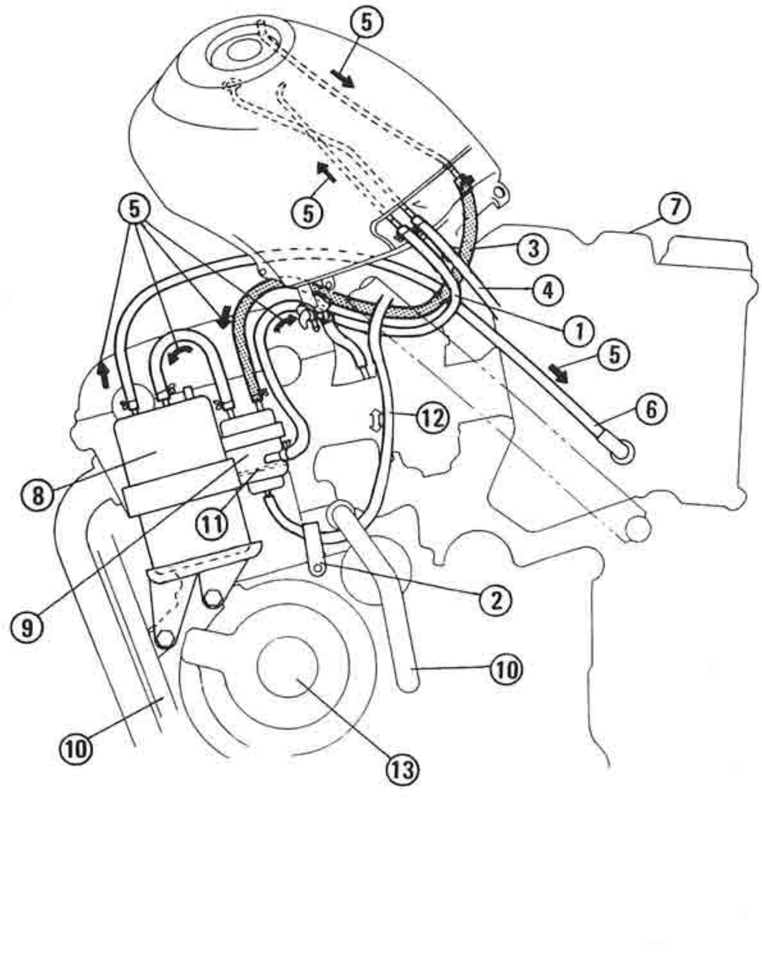
Evaporative Emission Control System

- Be sure to install the hose clamps on the position shown.





Run the purge hose before the ignition coil with slack.



1. **Return Hose with Red Mark**
2. **Clamp**
3. **Breather Hose with Blue Mark**
4. **Fuel Tank Overflow Drain Hose**
5. **Fuel Vapor Flow**
6. **Purge Hose with Green Mark**
7. **Air Cleaner Housing**
8. **Canister**
9. **Separator (Return Pump)**
10. **Water Pipes**
11. **Diaphragm**
12. **Vacuum Pulse Hose with White Mark**
13. **Alternator Cover**
14. **Canister Opening**
15. **Left-Hand Ignition Coil**
16. **To Vacuum Joint on Coasting Enricher of Left-Hand Carburetor**
17. **To Vacuum Joint on Right-Hand Carburetor**

Torque and Locking Agent

The following tables list the tightening torque for the major fasteners requiring use of a non-permanent locking agent or liquid gasket.

Letters used in the "Remarks" column mean:
G : Apply grease.
L : Apply non-permanent locking agent to the threads.
LG : Apply liquid gasket to the threads.
O : Apply oil to the threads and seated surface.
S : Tighten the fasteners following the specified sequence.
SS : Apply silicone sealant (PN 56019-120) to the threads.
St : Stake the fasteners to prevent loosening.

Parts	Torque			Remarks
	N·m	kg·m	ft·lb	
Fuel System:				
Switch housing clamp screws	3.4	0.35	30	
Cooling System:				
Water temperature sensor	7.8	0.80	69 in·lb	SS
Cooling fan switch (EX250-F2 ~ F4)	7.8	0.80	69 in·lb	
Cooling fan switch (EX250-F6 ~)	18	1.8	13.0	
Coolant drain plug (cylinder)	7.8	0.80	69 in·lb	
Coolant drain plug (water pump)	7.8	0.80	69 in·lb	
Engine Top End:				
Cylinder head cover bolts	9.8	1.0	87 in·lb	
Cylinder head bolts (8 mm)	25	2.5	18 in·lb	S
Cylinder bolts (6 mm)	12	1.2	104 in·lb	S
Chain guide bolt (upper)	25	2.5	18.0	
Chain guide bolt (lower)	27	2.8	20	L
Camshaft sprocket bolts	15	1.5	11.0	L
Valve adjusting screw locknuts	18	1.8	13.0	O
Camshaft bearing cap bolts	12	1.2	104	S
Camshaft chain tensioner bolts	–	–	–	L
Coolant drain plug (cylinder)	7.8	0.80	69	
Clutch:				
Clutch spring bolts	8.8	0.90	78 in·lb	
Clutch hub nut	130	13.5	98	

Parts	Torque			Remarks
	N-m	kg-m	ft-lb	
Engine Lubrication System:				
Engine drain plug	20	2.0	14.5	
Oil filter bolt	20	2.0	14.5	
Oil passage plug	15	1.5	11.0	
Oil pressure switch	15	1.5	11.0	SS
Oil pressure relief valve	15	1.5	11.0	L
Oil pump mounting Allen bolts	–	–	–	L
Engine oil hose banjo bolts	20	2.0	14.5	
Engine oil pipe banjo bolts (crankcase LH)	12	1.2	104 in-lb	
Oil breather bolts	–	–	–	L
Engine Removal/Installation:				
Engine mounting nuts	32	3.3	24	
Cylinder head bracket bolts	32	3.3	24	
Crankshaft/Transmission:				
Alternator rotor bolt	69	7.0	51	
Alternator stator Allen bolts	12	1.2	104 in-lb	L
Neutral switch	15	1.5	11.0	
Shift drum bearing holder Allen bolts	–	–	–	L
Shift drum pin plate screw	–	–	–	L
Shift drum positioning bolt	25	2.5	18.0	
External shift mechanism return spring pin	20	2.0	14.5	L
Connecting rod big end cap nuts	27	2.8	20	O
Starter clutch Allen bolts	34	3.5	25	L
Crankcase bolts (6 mm)	12	1.2	104 in-lb	
Crankcase bolts (8 mm)	27	2.8	20	
Engine drain plug	20	2.0	14.5	
Wheels/Tires:				
Front axle nut	88	9.0	65	
Rear axle nut	110	11.0	80	
Final Drive:				
Engine sprocket bolts	9.8	1.0	87 in-lb	
Rear sprocket nuts	67	6.8	49	
Rear sprocket stud ends	–	–	–	L
Torque link nuts	32	3.3	24	
Brakes:				
Bleed valves	7.8	0.80	69 in-lb	
Torque link nuts	32	3.3	24	
Caliper mounting bolts (Front)	32	3.3	24	
(Rear)	25	2.5	18.0	

Parts		Torque			Remarks
		N·m	kg·m	ft·lb	
Rear master cylinder clevis locknut		18	1.8	13.0	
Brake pedal mounting bolt		8.8	0.90	78 in·lb	
Disc mounting Allen bolts		23	2.3	16.5	
Brake hose banjo bolts		25	2.5	18.0	
Brake lever pivot bolt locknut		5.9	0.60	52 in·lb	
Front master cylinder clamp bolts		8.8	0.90	78 in·lb	S, G
Rear master cylinder mounting bolts		23	2.3	16.5	
Front brake fluid reservoir cap screws		1.5	0.15	13 in·lb	
Rear brake fluid reservoir bolt		5.9	0.60	52 in·lb	
Suspensions:					
Front fork drain bolts		7.8	0.80	69 in·lb	L
Front fork clamp bolts	(upper)	20	2.0	14.5	
	(lower)	29	3.0	22	
Front fork bottom Allen bolts		20	2.0	14.5	L
Rear shock absorber mounting nuts		44	4.5	33	
Tie-rod nuts		44	4.5	33	
Rocker arm pivot shaft nut		44	4.5	33	
Swingarm pivot shaft nut		88	9.0	65	
Steering:					
Steering stem head bolt		47	4.8	35	
Handlebar clamp bolts		23	2.3	16.5	
Handlebar holder mounting bolts		23	2.3	16.5	
Frame:					
Side stand bracket bolts		44	4.5	33	L
Electrical System:					
Spark plugs		13	1.3	113 in·lb	
Alternator rotor bolts		69	7.0	51	
Alternator stator bolts		12	1.2	104 in·lb	
Cooling fan switch (EX250-F2 ~ F4)		7.8	0.80	69 in·lb	
Cooling fan switch (EX250-F6 ~)		18	1.8	13.0	
Water temperature sensor		7.8	0.80	69 in·lb	SS
Neutral switch		15	1.5	11.0	
Oil pressure switch		15	1.5	11.0	SS
Switch housing clamp screws		3.4	0.35	30 in·lb	
Taillight lense screws		1.0	0.10	9 in·lb	
Taillight mounting nuts		5.9	0.60	52 in·lb	
Front turn signal light mounting nuts		5.9	0.60	52 in·lb	
Speedometer mounting screws		–	–	–	L

The table below, relating tightening torque to thread diameter, lists the basic torque for the bolts and nuts. Use this table for only the bolts and nuts which do not require a specific torque value. All of the values are for use with dry solvent-cleaned threads.

Basic Torque for General Fasteners

Threads dia. (mm)	Torque		
	N-m	kg-m	ft-lb
5	3.4 – 4.9	0.35 – 0.50	30 – 43 in-lb
6	5.9 – 7.8	0.60 – 0.80	52 – 69 in-lb
8	14 – 19	1.4 – 1.9	10.0 – 13.5
10	25 – 34	2.6 – 3.5	19.0 – 25
12	44 – 61	4.5 – 6.2	33 – 45
14	73 – 98	7.4 – 10.0	54 – 72
16	115 – 155	11.5 – 16.0	83 – 115
18	165 – 225	17.0 – 23.0	125 – 165
20	225 – 325	23 – 33	165 – 240

Periodic Maintenance Chart (US and Canada Models)

The scheduled maintenance must be done in accordance with this chart to keep the motorcycle in good running condition. **The initial maintenance is vitally important and must not be neglected.**

FREQUENCY OPERATION	Whichever comes first	* ODOMETER READING							
	Every	800 km	5000 km	10000 km	15000 km	20000 km	25000 km	30000 km	See Page
Carburetor synchronization --check †		●	●	●	●	●	●	●	(2-8)
Idel speed--check †		●	●	●	●	●	●	●	(2-7)
Throttle grip play--check †		●		●		●		●	2-4
Spark plug--clean and gap †			●	●	●	●	●	●	(15-20)
Valve clearance--check †		●		●		●		●	4-7
Air cleaner element--clean †		●		●		●		●	(2-16)
Air cleaner element--replace	5 cleanings				●				(2-16)
Fuel system-- †				●		●		●	(2-9)
Evaporative emission control system (Ca)--check †		●	●	●	●	●	●	●	2-6
Battery electrlyte level--check †	month	●	●	●	●	●	●	●	(15-9)
Fuel hoses, connections - check †			●	●	●	●	●	●	
Brake light switch--check †		●	●	●	●	●	●	●	(15-35)
Brake pad wear--check †			●	●	●	●	●	●	11-5
Brake fluid level--check †	month	●	●	●	●	●	●	●	(11-11)
Brake fluid--change	2 years					●			(11-11)
Clutch--adjust		●	●	●	●	●	●	●	(5-4)
Steering--check †		●	●	●	●	●	●	●	(13-4)
Drive chain wear--check †			●	●	●	●	●	●	(10-5)
Nuts, bolts, and fasteners tightness--check †		●		●		●		●	16-2
Tire wear--check †			●	●	●	●	●	●	9-3
Engine oil--change	year	●		●		●		●	(6-6)
Oil filter--replace		●		●		●		●	(6-6)
General lubrication--perform			●	●	●	●	●	●	(16-7)
Front fork oil--change								●	12-3
Swing arm pivot, uni-trak linkage--lubricate				●		●		●	(12-10) (12-11)
Coolant--change	2 years							●	(3-5)
Radiator hoses, connections --check †	year	●		●		●		●	(3-11)

FREQUENCY OPERATION	Whichever comes first	* ODOMETER READING							
	Every	800 km	5000 km	10000 km	15000 km	20000 km	25000 km	30000 km	See Page
Steering stem bearing--lubricate	2 years					●			(13-6)
Master cylinder cup and dust seal--replace	2 years								(11-9)
Caliper piston seal and dust seal--replace	2 years								(11-6)
Brake hose--replace	4 years								(11-14)
Brake hoses, connections - check †			●	●	●	●	●	●	
Fuel hose--replace	4 years								
Drive chain--lubricate	Every 300 km								(10-6)
Drive chain--slack--check †	Every 800 km								(10-4)
Cooant filter--clean	1 year								

* : For higher odometer readings, repeat at the frequency interval established here.

† : Replace, add, adjust, clean, or torque if necessary.

(Ca) : California vehicle only

(xx-xx) : Reference Page in the Base Manual

Periodic Maintenance Chart (Other than US and Canada Models)

The scheduled maintenance must be done in accordance with this chart to keep the vehicle in good running condition. **The first service is vitally important and must not be neglected.**

FREQUENCY / OPERATION	Whichever comes first → ↓ Every	† ODOMETER READING 1000 km (600mile)	6000 km (4000mile)	12000 km (7500mile)	18000 km (12000mile)	24000 km (15000mile)	30000 km (20000mile)	360000 km (24000mile)	
Spark plug - clean and gap †			●	●	●	●	●	●	
Valve clearance - check †				●		●		●	
Air cleaner element - clean †#				●		●		●	
Throttle grip play - check †		●		●		●		●	
Idle speed - check †		●		●		●		●	
Carburetor synchronization - check †				●		●		●	
Fuel hoses, connections - check †			●	●	●	●	●	●	
Evaporative emission control system (Ca) - check †		●	●	●	●	●	●	●	
Engine oil - change #	6 months	●	●	●	●	●	●	●	
Oil filter - replace		●		●		●		●	
Radiator hoses, connections - check †		●							
Coolant - change	2 years					●			
Clutch - adjust		●	●	●	●	●	●	●	
Drive chain wear - check #			●	●	●	●	●	●	
Drive chain - lubricate #	600 km								
Drive chain slack - check † #	1000 km								
Brake hoses, connections - check †			●	●	●	●	●	●	
Brake fluid level - check †	month	●	●	●	●	●	●	●	
Brake fluid - change	2 years					●			
Brake master cylinder cup and dust seal - replace	4 years								
Caliper piston seal and dust sea - replace	4 years								
Brake light switch - check †		●	●	●	●	●	●	●	
Steering - check †		●	●	●	●	●	●	●	

FREQUENCY OPERATION	Whichever comes first	†ODOMETER READING							
	Every	1000 km (600mile)	6000 km (4000mile)	12000 km (7500mile)	18000 km (12000mile)	24000 km (15000mile)	30000 km (20000mile)	360000 km (24000mile)	
Steering stem bearing - lubricate	2 years					●			
Front fork oil - change	2 years					●			
Rear shock absorber oil leak - check †				●		●		●	
Front fork oil leak - check †				●		●		●	
Tire wear - check †			●	●	●	●	●	●	
Swingarm pivot, uni - trak linkage - lubricate				●		●		●	
Battery electrolyte level - check †	6 months		●	●	●	●	●	●	
General lubrication - perform				●		●		●	
Nuts, bolts, and fasteners tightness - check †		●		●		●		●	
Coolant filter - clean	year								

:Service more frequently when operating in severe conditions dusty, wet, muddy, high speed, or frequent starting/stopping.

* : For higher odometer readings, repeat at the frequency interval established here.

† :Replace, add, adjust, clean, or torque if necessary.

(Ca):California vehicle only

Fuel System

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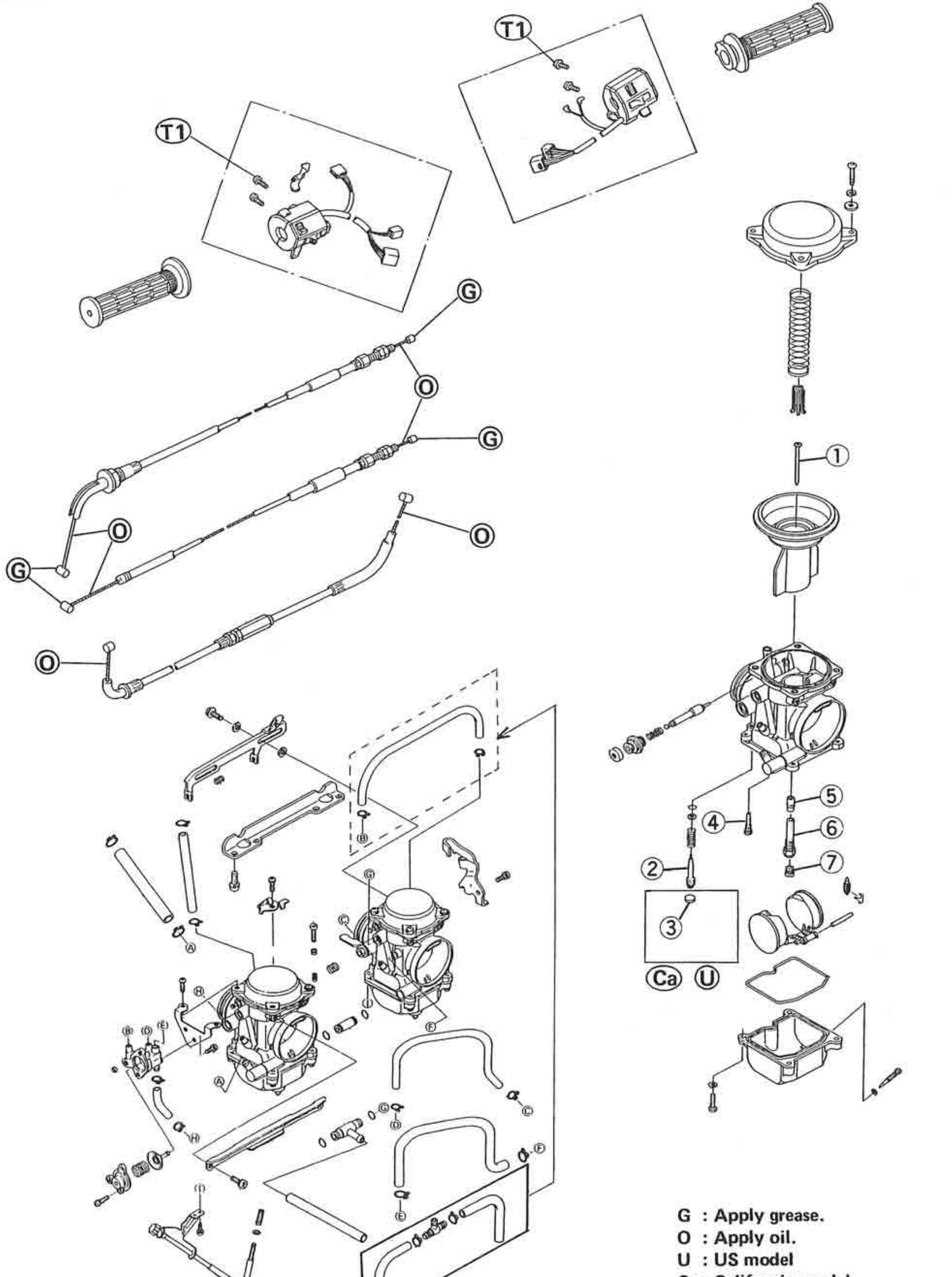
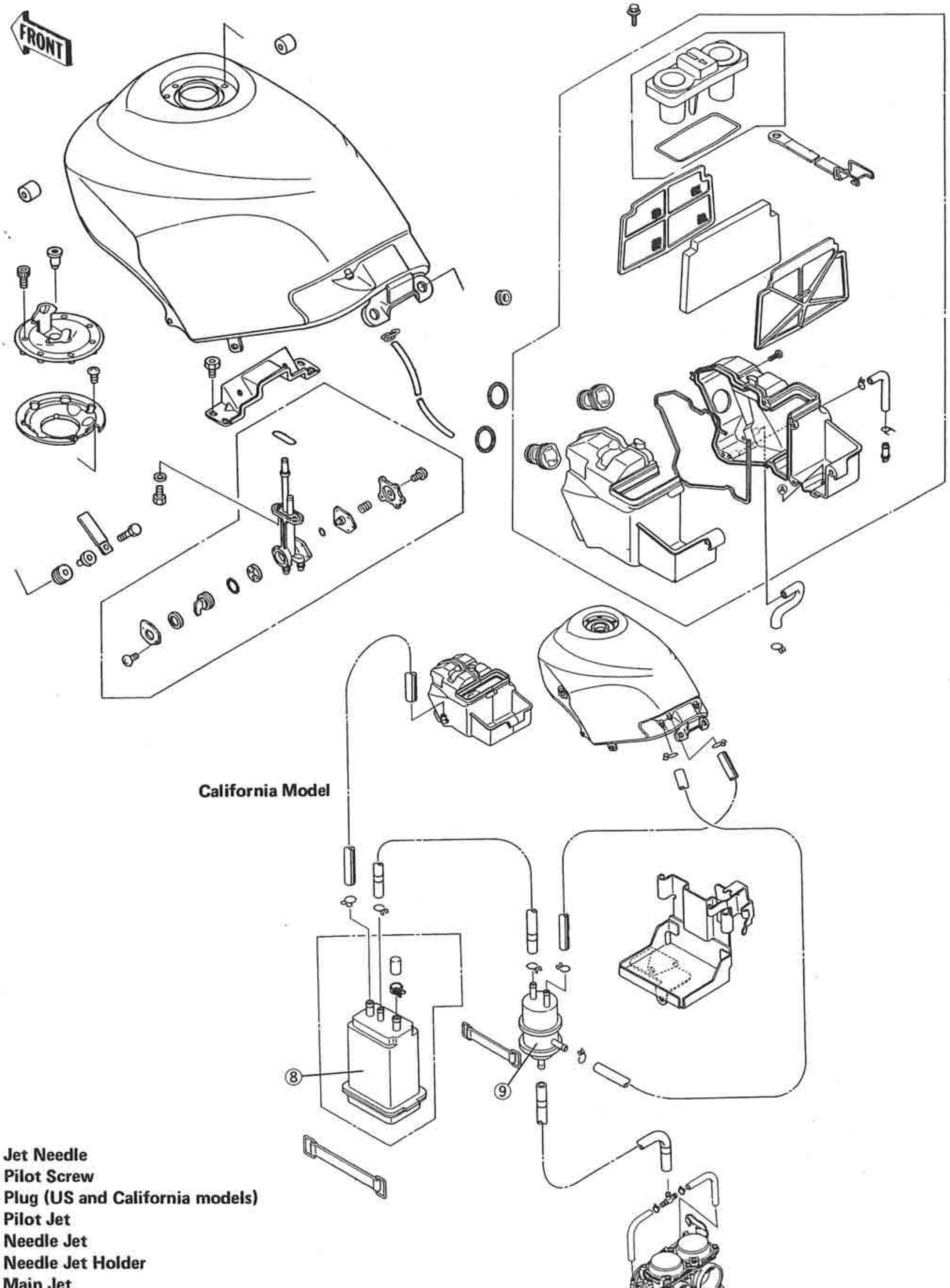
Exploded View



G : Apply grease.
O : Apply oil.
U : US model
Ca : California model

T1 : 3.4 N-m (0.35 kg-m, 30 in-lb)



1. Jet Needle
2. Pilot Screw
3. Plug (US and California models)
4. Pilot Jet
5. Needle Jet
6. Needle Jet Holder
7. Main Jet
8. Canister
9. Separator (Return Pump)

Specifications

Idle Speed
Standard: 1300 ±100 r/min (rpm)
(including California model)

Carburetor Specifications

Make, type: Keihin, CVK30
Main jet: #105
Main air jet: #100,(A) #80
Needle jet: #6
Jet needle mark: N16 I
Pilot jet (slow jet): #38
Pilot air jet (slow air jet): #90
Pilot screw (turns out): 2, (Ca) (U) —
Starter jet: #52
Service fuel level
(from carburetor body bottom edge):
0.5 mm below — 1.5 mm above
Float height: 17.0 ± 2 mm

High Altitude Carburetor Specifications ((Ca)(U))
Main jet: #102
Pilot jet: #35

Optional Parts

Main jet: #100,102,108,110
Pilot jet: (C)(Ca)(U) #35

Carburetors

Since there is no "PRI" position on the fuel tap of this model, note following.

Turn the fuel tap to the ON position instead of PRI.

Turn the fuel tap to the OFF position instead of ON.

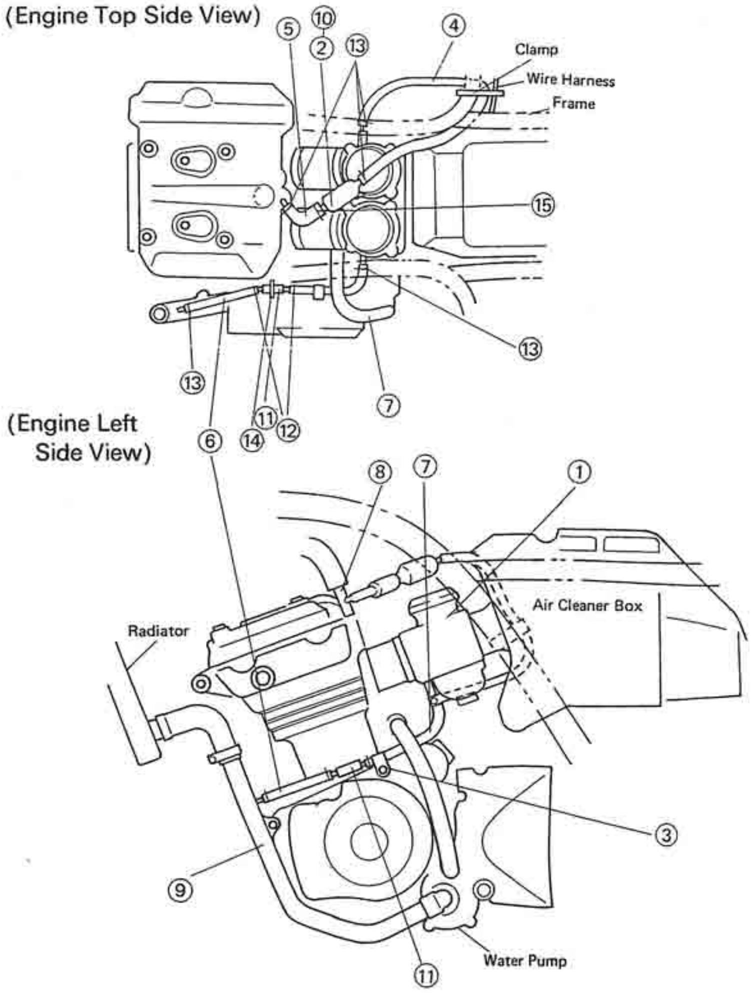
This change applies to the following items.

Carburetor Synchronization Inspection
Fuel Level Inspection
Fuel System Cleanliness Inspection
Fuel Tank Removal

Coolant Filter Cleaning
(UK model, EX250-F3 ~)

Before winter season starts, clean the filter of carburetor system.

- Remove the fairings.
- Drain the coolant (see Cooling System chapter).
- Remove the filter from the cooling hoses of carburetor system.
- Blow off dirt and sediment on the filter with compressed air.



1. Carburetor
2. Body
3. Clamp
4. Hose
5. Hose
6. Hose
7. Hose
8. Water Pipe
9. Water Pipe
10. Water Filter
11. Valve Assy
12. Clamp
13. Clamp
14. Damper
15. Clamp

High Altitude Performance Adjustment
(US model)

To improve the Emission Control Performance of vehicle operated above **4000** feet (**1219** meters), Kawasaki recommends the following Environmental Protection Agency (EPA) approved modification.

NOTE

○ *When properly performed, these specified adjustments are not considered to be emission control system "tampering" and vehicle performance is generally unchanged as a result.*

- High altitude adjustments require replacement of certain carburetor jets.

High Altitude Carburetor Specifications

Main Jet: #102

Pilot Jet: #35

- After high altitude adjustments are performed, provide the customer with the Vehicle Emission Control Information Update Label and label installation instructions (P/N 99969-0614).
- Advise the customer that by law, the Vehicle Emission Control Information Update Label must be affixed to any vehicle modified with the high altitude adjustments.

NOTE

○ *If a vehicle with the high altitude adjustments is used below* **4000** feet (**1219**meters), the update label must be removed and the original carburetor parts must be reinstalled.

Coolant Filter Cleaning

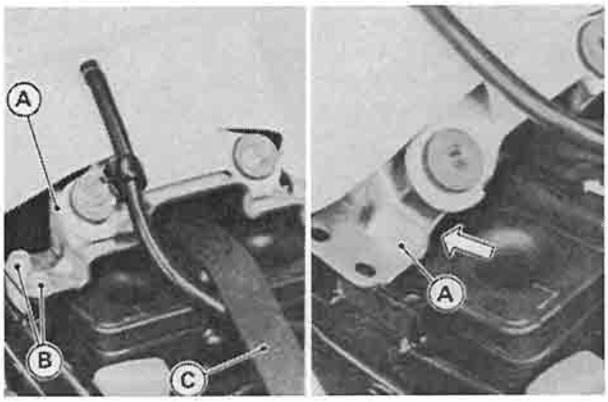
Before winter season starts, clean the filter of carburetor system.

- Remove the fuel tank.
- Drain the coolant (see Cooling System chapter).
- Remove the filter from the cooling hoses of carburetor system.
- Blow off dirt and sediment on the filter with compressed air.

Air Cleaner

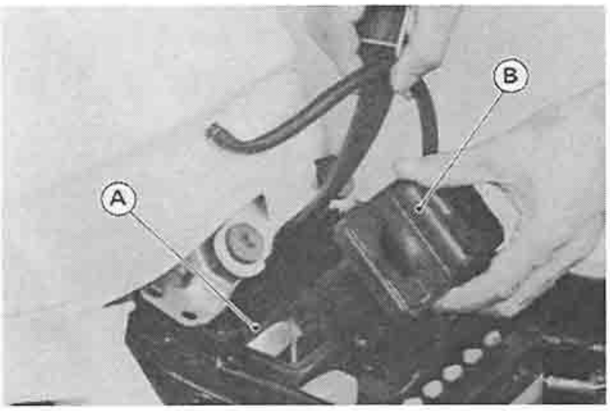
Air Cleaner Element Removal

- Remove:
  Seat (see Frame chapter)
  Fuel Tank Bracket Bolts
- Move the tank bracket forward to pull the rubber band out of the cleaner housing.



A. Tank Bracket
B. Tank Bracket Bolts
C. Rubber Band

- Remove the air cleaner housing cap.
- Pull the element holder out of place.
- Pull out the air cleaner element.



A. Element
B. Element Holder

- Push a clean, lint-free towel into the air cleaner housing to keep dirt or other foreign material from entering.

⚠WARNING

If dirt or dust is allowed to pass through into the carburetors, the throttle valves may become stuck, possibly causing an accident.

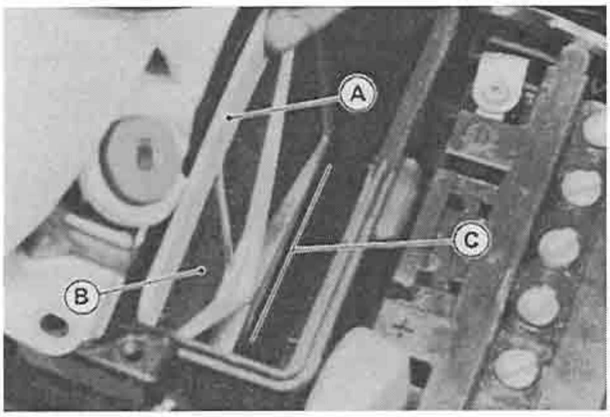
CAUTION

If dirt gets through into the engine, excessive engine wear and possibly engine damage will occur.

Air Cleaner Element Installation

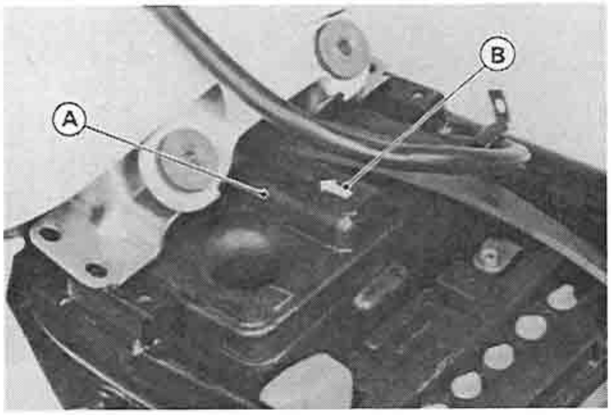
○ Element installation is the reverse of removal. Note the following.

- Be sure to fit the element holder in the groove at the bottom of the case.



A. Holder
B. Element
C. Groove

- Set the housing cap with the arrow mark facing forward.



A. Housing Cap B. Arrow

- Install the fuel tank (see Fuel Tank Installation).

Fuel Tank

Fuel Tank Removal

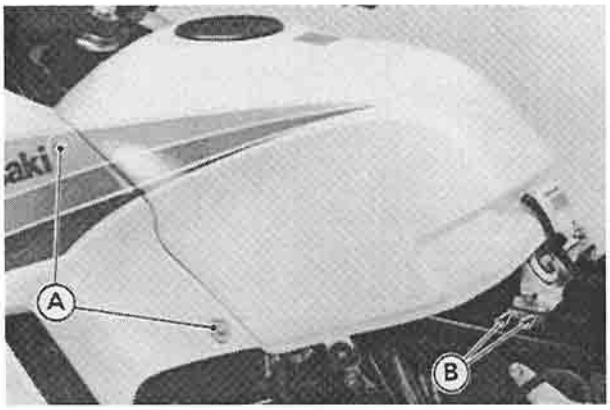
⚠WARNING

Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition switch OFF. Do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.

CAUTION

For the US California vehicle, if gasoline, solvent, water or any other liquid enters the canister, the canister's vapor absorbing capacity is greatly reduced. If the canister does become contaminated, replace it with a new one.

- Remove the following parts.
  - Seat (see Frame chapter)
  - Side Covers (see Frame chapter)
  - Upper Fairing Allen Bolts
  - Fuel Tank Bracket Bolts



A. Upper Fairing Allen Bolts
B. Fuel Tank Bracket Bolts

- Turn the fuel tap to the OFF position.
- Tilt the tank out the rear of the frame.
- Pull the hoses off the tap.
  - ○ For California vehicles, the breather and fuel return hoses must be disconnected from the tank fittings before tank removal. Plug the fuel return fitting. This prevents gasoline from flowing into the canister.
- Drain the fuel tank if necessary.
  - ○ Arrange a suitable container under the fuel tank.
  - ○ Turn the fuel tap to the RES position to drain the fuel into the container.

Fuel Tank Installation Notes

○ Refer to the base manual noting the following.

- Run the fuel tank hoses according to the Wiring, Cable, or Hose Routing section in the General Information chapter.
- Tighten the upper fairing Allen bolts first, then tighten the tank bracket bolts for easy bolt installation.

Evaporative Emission Control System (US California Vehicle only)

Parts Removal/Installation Notes

Refer to the Base Manual noting the following.

- Install the parts and route the hoses according to the Wiring, Cable, or Hose Routing section in the General Information chapter.

Cooling System

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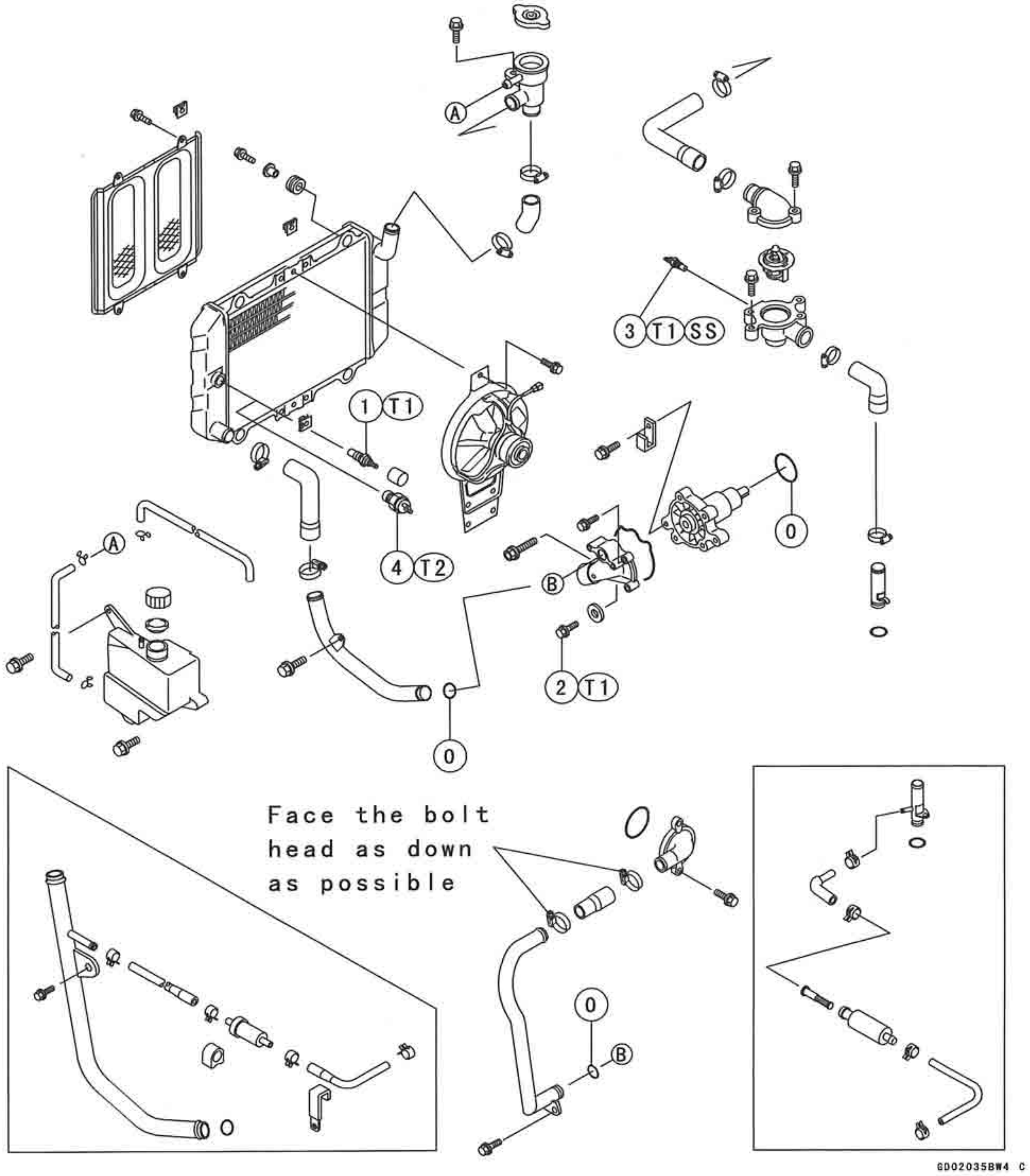
Exploded View



1. Fan Switch (EX250-F2 ~ F4)
2. Drain Plug
3. Water Temperature Sensor
4. Fan Switch (EX250-F6 ~)

SS: Apply silicone sealant.
O: Apply oil at installation.
T1: 7.8 N·m (0.80 kg·m, 69 in·lb)
T2: 18 N·m (1.8 kg·m, 13.0 ft·lb)

Specifications

Item	Standard
Original Coolant	
Type:	Permanent type of antifreeze (soft water and ethylene glycol plus corrosion and rust inhibitor chemicals for aluminum engines and radiators)
Color:	Green
Mixed ratio:	Soft water 50%, coolant 50%
Freezing point:	–35°C (–31°F)
Total amount:	1.0 L (reservoir tank full level including radiator and engine)
Radiator Cap	
Relief pressure:	93 ~ 123 kPa (0.95 ~ 1.25 kg/cm^2, 14 ~ 18 psi)
Thermostat	
Valve opening temperature:	80.5 – 83.5°C (177 – 182°F)
Valve full open lift:	6 mm or more @95°C (203°F)

Sealant

Kawasaki Bond (Silicone Sealant): 56019-120

Coolant Filter Cleaning

Refer to the chapter of carburetor in Fuel System for the cleaning procedures.

Engine Top End

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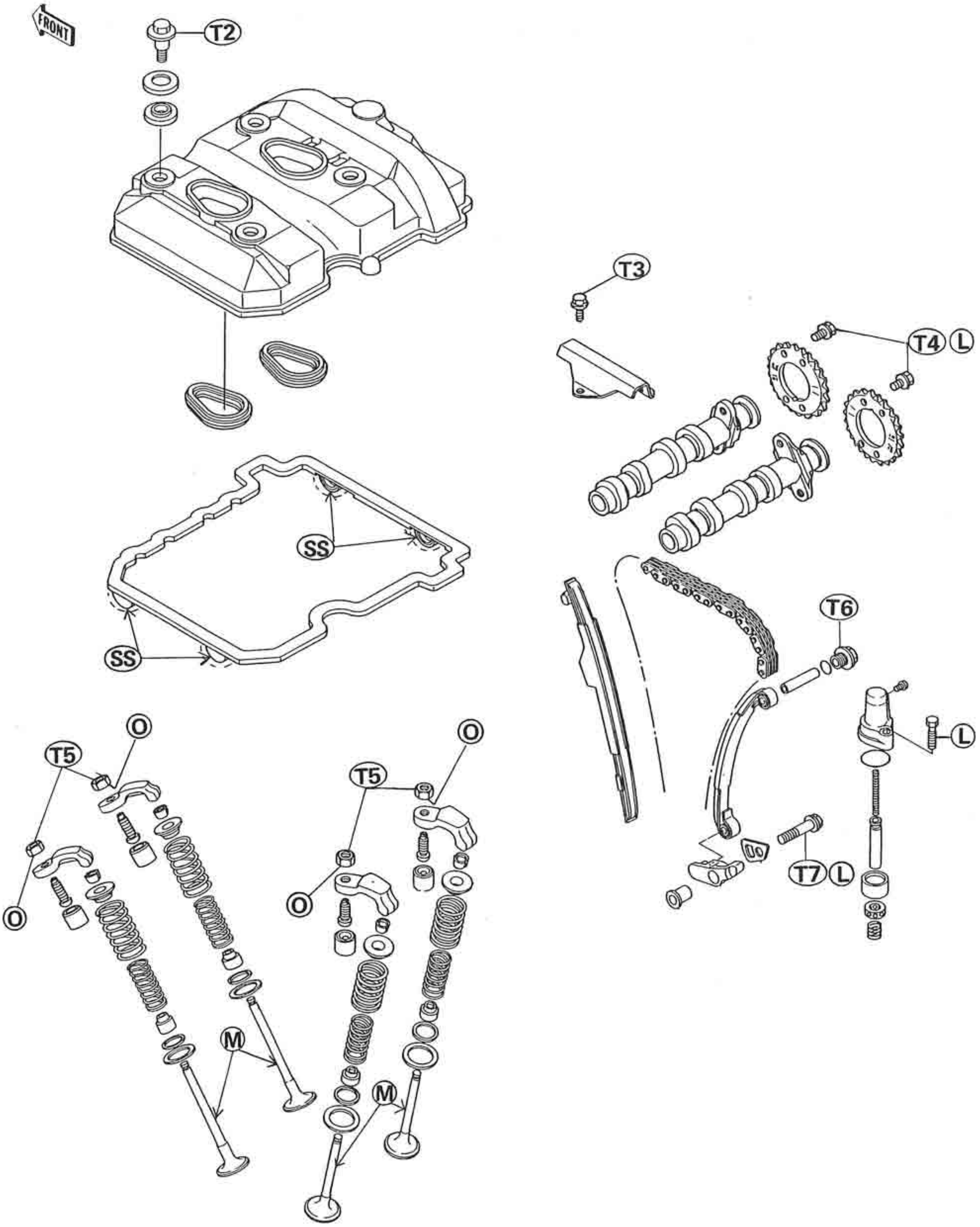
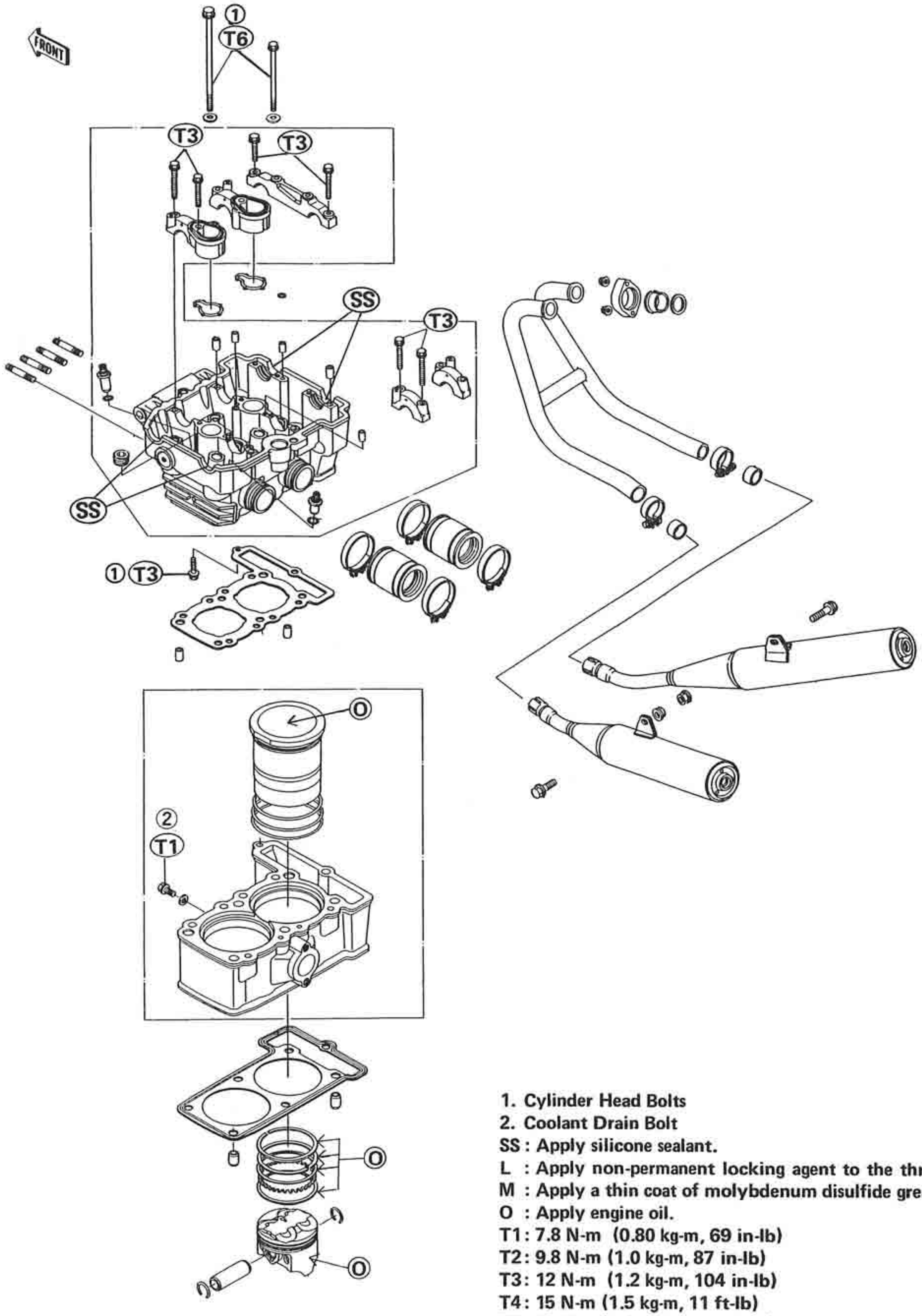
* : Base Manual

Exploded View





1. Cylinder Head Bolts
2. Coolant Drain Bolt

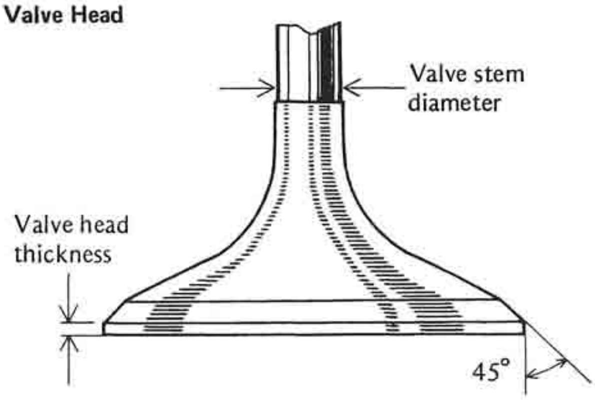
SS : Apply silicone sealant.
L : Apply non-permanent locking agent to the threads.
M : Apply a thin coat of molybdenum disulfide grease.
O : Apply engine oil.
T1 : 7.8 N-m (0.80 kg-m, 69 in-lb)
T2 : 9.8 N-m (1.0 kg-m, 87 in-lb)
T3 : 12 N-m (1.2 kg-m, 104 in-lb)
T4 : 15 N-m (1.5 kg-m, 11 ft-lb)
T5 : 18 N-m (1.8 kg-m, 13.0 ft-lb)
T6 : 25 N-m (2.5 kg-m, 18 ft-lb)
T7 : 27 N-m (2.8 kg-m, 20 ft-lb)

Specifications

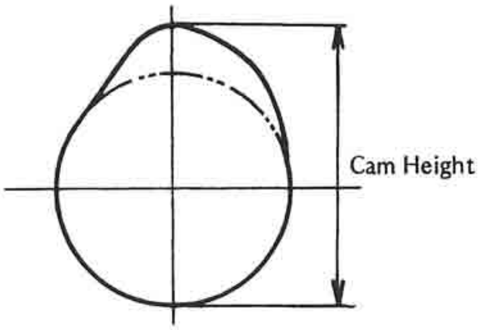
Refer to the Base Manual, noting the following.

Item	Standard	Service Limit
Camshaft:		
Cam height: Inlet	30.53 – 31.67 mm	30.43 mm
Exhaust	30.53 – 31.67 mm	30.43 mm
Cylinder Head:		
Cylinder compression (Usable range)	980 – 1500 kPa (10.0 – 15.3 kg/cm², 142 – 218 psi)	– – –
Valves:		
Valve spring free length:		
Inner	30.7 mm	29.1 mm
Outer	35.0 mm	33.4 mm
Valve head thickness:		
Inlet	0.65 mm	0.3 mm
Exhaust	0.70 mm	0.5 mm
Cylinder, Piston:		
Oversize piston and rings	+0.5 mm	– – –
Piston ring/groove clearance:		
Top	0.03 – 0.07 mm	0.17 mm
Second	0.02 – 0.06 mm	0.16 mm
Piston ring groove width:		
Top	0.82 – 0.84 mm	0.92 mm
Second	0.81 – 0.83 mm	0.91 mm
Piston ring end gap: Top	0.30 – 0.45 mm	0.8 mm
Second	0.30 – 0.45 mm	0.8 mm

Valve Head



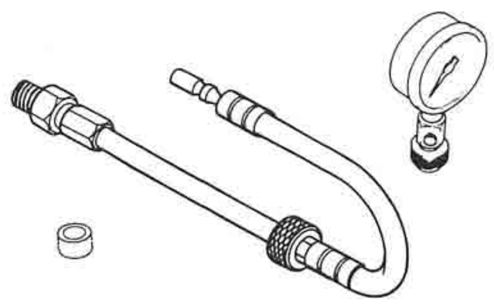
Cam Height Measurement



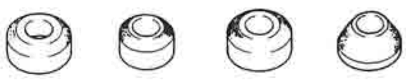
Special Tools

Refer to the Base Manual noting the following.

Compression Gauge: 57001-221
Adapter: 57001-1255
Gasket: 57001-1224



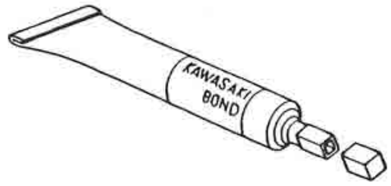
Valve Seat Cutters:
(45° – ϕ24.5: 57001-1113)
(32° Ex. – ϕ22: 57001-1206)
(32° In. – ϕ25: 57001-1118)
(67.5° – ϕ22: 57001-1207)



Sealant

Kawasaki Bond (Silicone Sealant): 56019-120

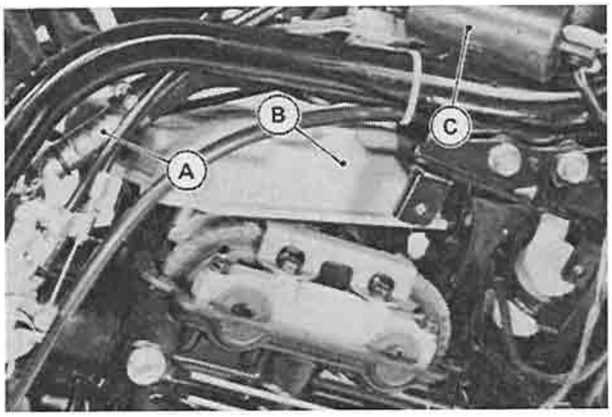
Kawasaki Bond (Liquid Gasket – Black): 92104-1003



Cylinder Head Cover

Cylinder Head Cover Removal

- Drain the coolant (see Coolant Draining in the Cooling System chapter).
- Remove the following parts.
  Upper Fairing (see Frame chapter in this text)
  Fuel Tank (see Fuel System chapter in this text)
  Right-Hand Ignition Coil
- Remove the cylinder head cover bolts and lift the head cover.
- Pull the water pipe out of the cylinder head and remove the cylinder head cover from the vehicle right side.

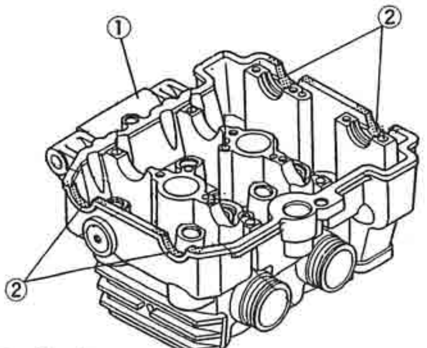


A. Water Pipe
B. Cylinder Head Cover
C. Ignition Coil

Cylinder Head Cover Installation Notes

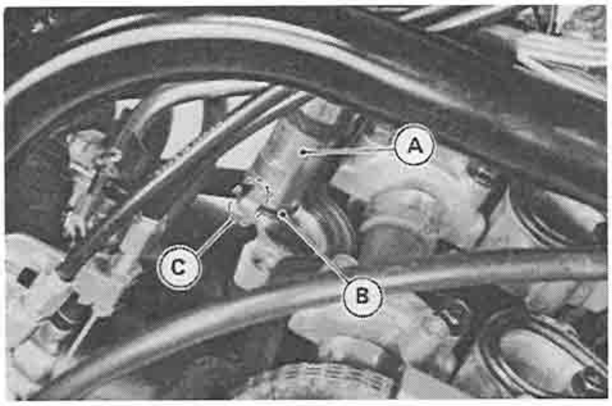
- Replace the head cover gasket with a new one if the gasket is damaged.
- Apply silicone sealant to the cylinder head as shown.

Silicone Sealant Applied Area



1. Cylinder Head
2. Apply silicone sealant here.

- Stick the gasket partially to the cover with a liquid gasket for installation convenience.
- Check that the O-ring is good condition, and install the water pipe as shown.



A. Water Pipe
B. O-Ring
C. Hook

- Tighten the cylinder head cover bolts to the specified torque (see Exploded View).

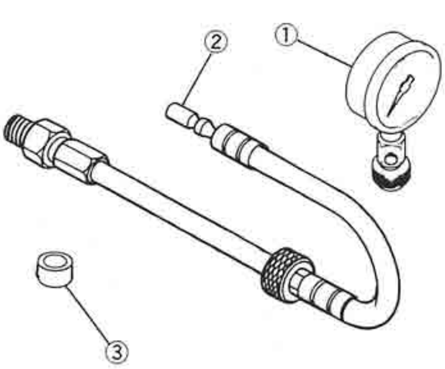
Cylinder Head

Compression Measurement

○Refer to p. 4-11 in the Base Manual noting the following.

- Throughly warm up the engine so that engine oil between the piston and cylinder wall will help seal compression as it does during normal running.
- Stop the engine, remove the spark plugs, and fuel tank, and attach compression gauge (special tool) firmly into the spark plug hole.

Compression Gauge



1. Compression Gauge: 57001-221
2. Adapter: 57001-1255
3. Gasket: 57001-1224

- Using the starter motor, rotate the engine over with the throttle fully open until the compression gauge stops rising; the compression is the highest reading obtainable.
- Repeat the measurement for the other cylinder.

Cylinder Compression (Usable Range)

980 – 1500 kPa, 470 r/min (rpm)
(10.0 – 15.3 kg/cm^2, 142 – 218 psi)

Valves

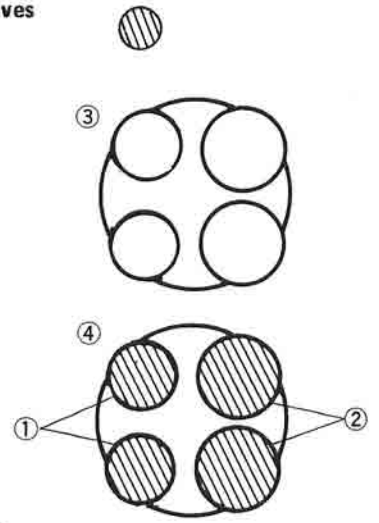
Valve Clearance Inspection

- If the engine is hot, wait until the engine cools. Valve clearance must be checked when the engine is cold (room temperature).
- Drain the coolant.
- Remove the following parts.
  Upper Fairing (see Frame chapter in this text)
  Fuel Tank (see Fuel System chapter in this text)
  Right-Hand Ignition Coil
  Cylinder Head Cover
  Alternator Cover Upper and Center Plugs
- Using a wrench on the crankshaft rotation bolt, turn the crankshaft counterclockwise until a TDC mark on the rotor is aligned with the timing mark in the inspection window with the piston on the compression stroke.

○Watching the movement of the Number **1** (left side) cylinder's inlet valve.

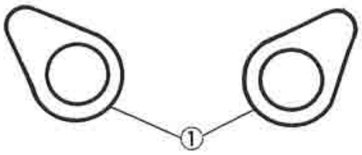
○When the valves have just finished opening and closing (moving downwards and returning upwards), turn the crankshaft in the same direction until the **1T** mark on the alternator rotor is aligned with the **notch** in the inspection window in the alternator cover.

Measuring Valves



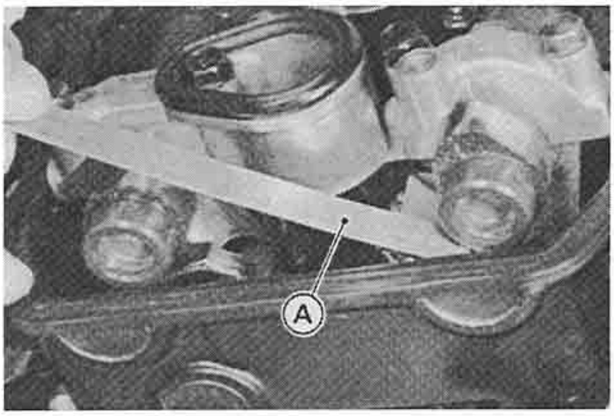
1. Exhaust Valves
2. Inlet Valves
3. Number 2 Cylinder
4. Number 1 Cylinder

Camshaft Position



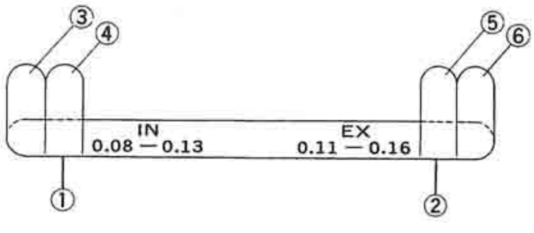
1. Number 1 Cylinder's Camshafts

- Measure the clearance of Number 1 cylinder's inlet valves by inserting the thickness gauge (special tool: limit gauge) enough between the cam lobe and rocker arm.



A. Thickness Gauge: 57001-1221

Thickness Gauge: 57001-1221 Limit Gauge

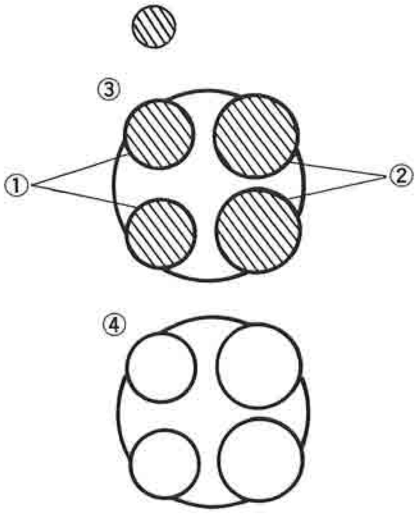


1. For Inlet Valve Inspection
2. For Exhaust Valve Inspection
3. GO End
4. NO-GO End
5. NO-GO End
6. GO END

○When the "GO" end of the gauge will fit, but not the "NO-GO" end, the valve clearance is correct.

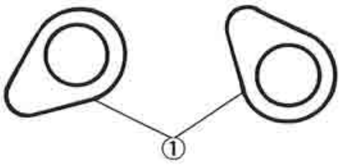
- Measure the Number 1 cylinder exhaust valves in the same manner.
- Turn the crankshaft 180° counterclockwise until the inspection window projection on the alternator cover aligns with the **2T** mark on the alternator rotor.
- Measure the Number 2 cylinder's inlet and exhaust valve clearances in the same manner as for the Number 1 cylinder.

Measuring Valves



1. Exhaust Valves
2. Inlet Valves
3. Number 2 Cylinder
4. Number 1 Cylinder

Camshaft Position



1. Number 1 Cylinders Camshafts

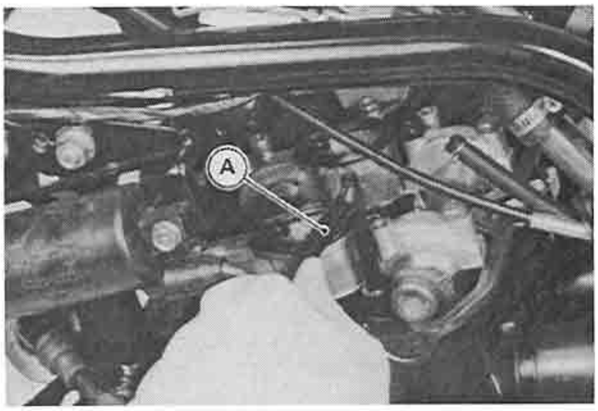
★If the valve clearance is incorrect, the valve clearance must be adjusted.

Valve Clearance Adjustment

○When adjusting the exhaust valve clearance, remove the following parts to insert the valve adjuster (special tool).

Radiator and Radiator Fan Motor
Right and Left Engine Brackets along
with Ignition Coils

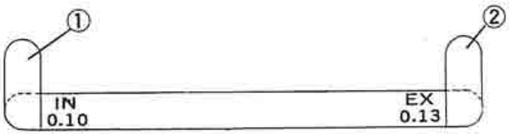
- Loosen the valve adjusting screw locknut by using the valve adjuster (special tool).



A. Valve Adjuster: 57001-1220

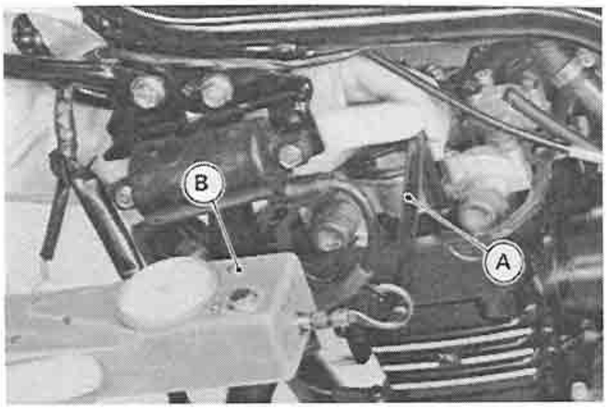
- Insert the thickness gauge (special tool: adjust gauge) between the cam lobe and the rocker arm.
- Turn the adjusting screw until the gauge drags in the clearance.

Thickness Gauge: 57001-1221 Adjust Gauge



1. For Inlet Valve Adjustment
2. For Exhaust Valve Adjustment

- Apply oil to the nut seating surface.
- Tighten the locknut by the valve adjuster temporarily.
- Tighten the locknut to the specified torque (**12 kg** Force) while preventing the adjusting screw from turning with the locknut by using a push-pull gauge.



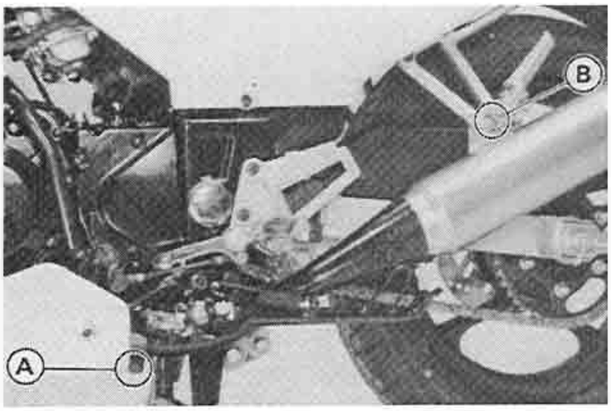
A. Valve Adjuster: 57001-1220 B. Push-Pull Gauge

- Reinstall the removed parts.
- Fill the engine with coolant and bleed air in the cooling system (see Cooling System chapter).

Muffler

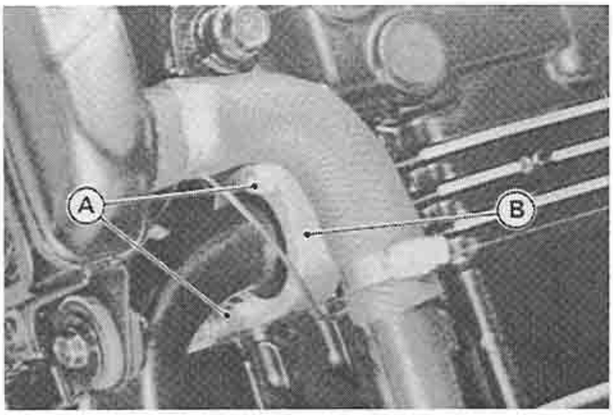
Muffler Removal

- Loosen the muffler clamp bolt until the clamp turns freely on the muffler.
- Remove the muffler mounting bolt and nut at the rear footpeg bracket, and take off each muffler.
- Repeat the same procedure on the other side of the vehicle.
- Take off each muffler.



A. Clamp B. Muffler Mounting Bolt and Nut

- Remove the following parts.
  - Lower Fairing (see Frame chapter)
  - Lower Fairing Stay
  - Exhaust Pipe Holders
  - Split Keepers



A. Nuts B. Exhaust Pipe Holder

- Pull the exhaust pipe toward the front.
- Remove the exhaust pipe holders and gaskets.

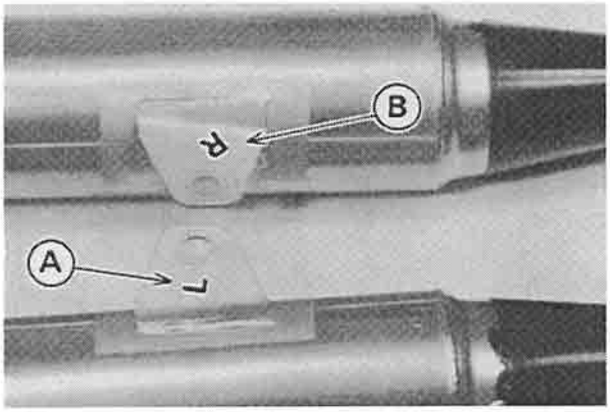
CAUTION

○Be careful not to touch the radiator fins during work. The fins are easily deformed.

Muffler Installation

○Refer to the Base Manual noting the following.

○The left-hand muffler has an L mark and the right-hand muffler a R mark. Be careful not to mix them up.



A. L Mark B. R Mark

Clutch

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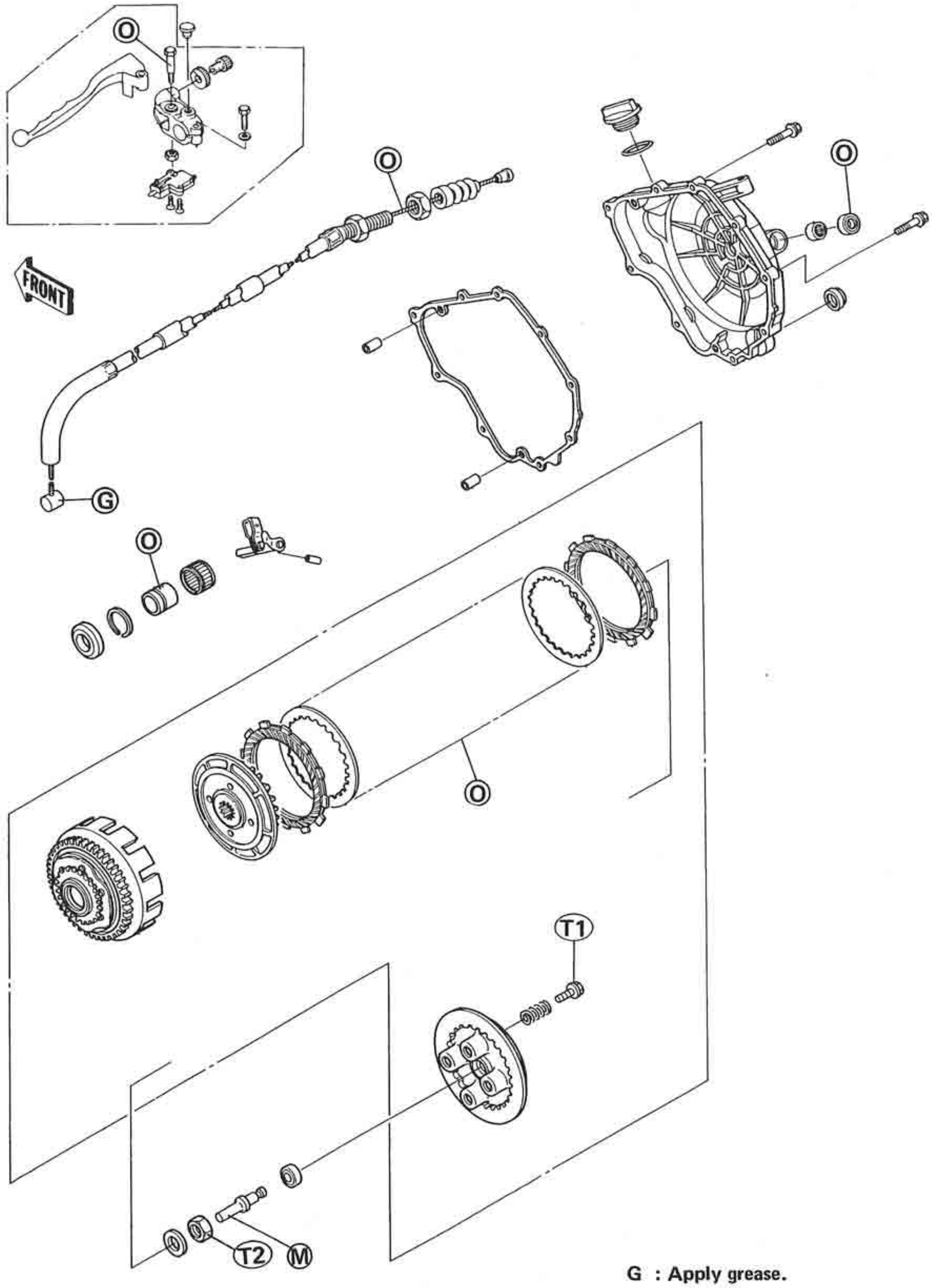
* : Base Manual

Exploded View



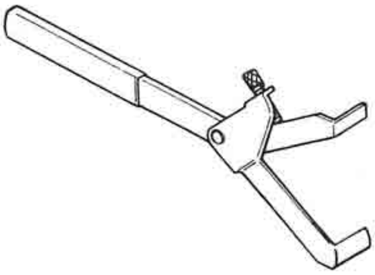
G : Apply grease.
L : Apply non-permanent locking agent.
M : Apply molybdenum disulfide grease.
O : Apply engine oil.
T1 : 8.8 N-m (0.90 kg-m, 78 in-lb)
T2 : 130 N-m (13.5 kg-m, 98 ft-lb)

Special Tools

Refer to the Base Manual noting the following.

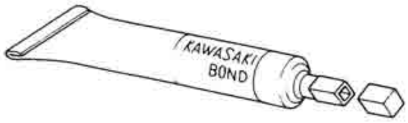
Clutch Holder: 57001-1243

○This clutch holder may be used instead of the clutch holder (special tool: PN 57001-305).



Sealant

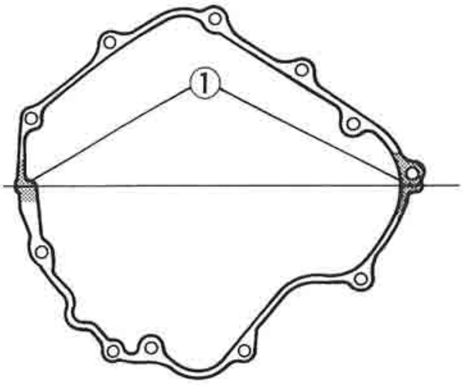
Kawasaki Bond (Silicone Sealant): 56019-120



Clutch

Clutch Cover Installation Notes

- Replace the clutch cover gasket with a new one.
- Apply silicone sealant partially to the crankcase halves mating surface on the front and rear sides of the cover mount.



1. Silicone Sealant Applied Areas

Clutch Release Lever (Shaft) Removal

○Refer to the Base Manual noting the following.

○Do not remove the clutch release lever and shaft assembly unless it is absolutely necessary. If removed, the oil seal replacement may be required.

Engine Lubrication System

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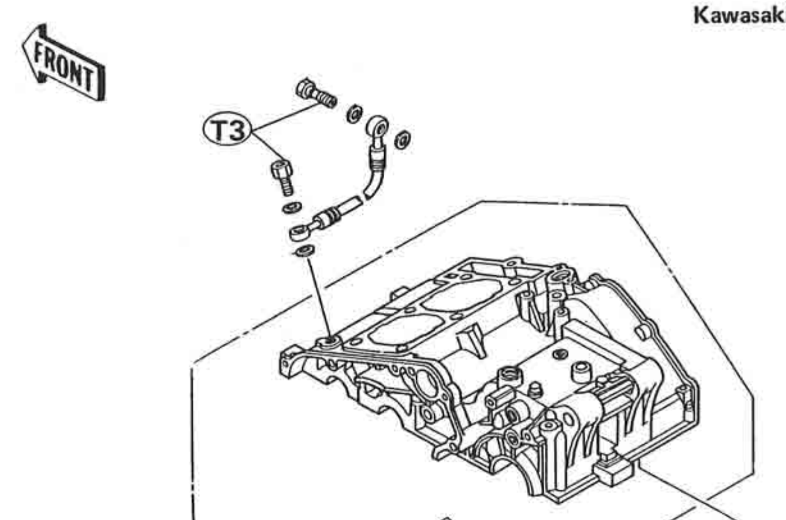
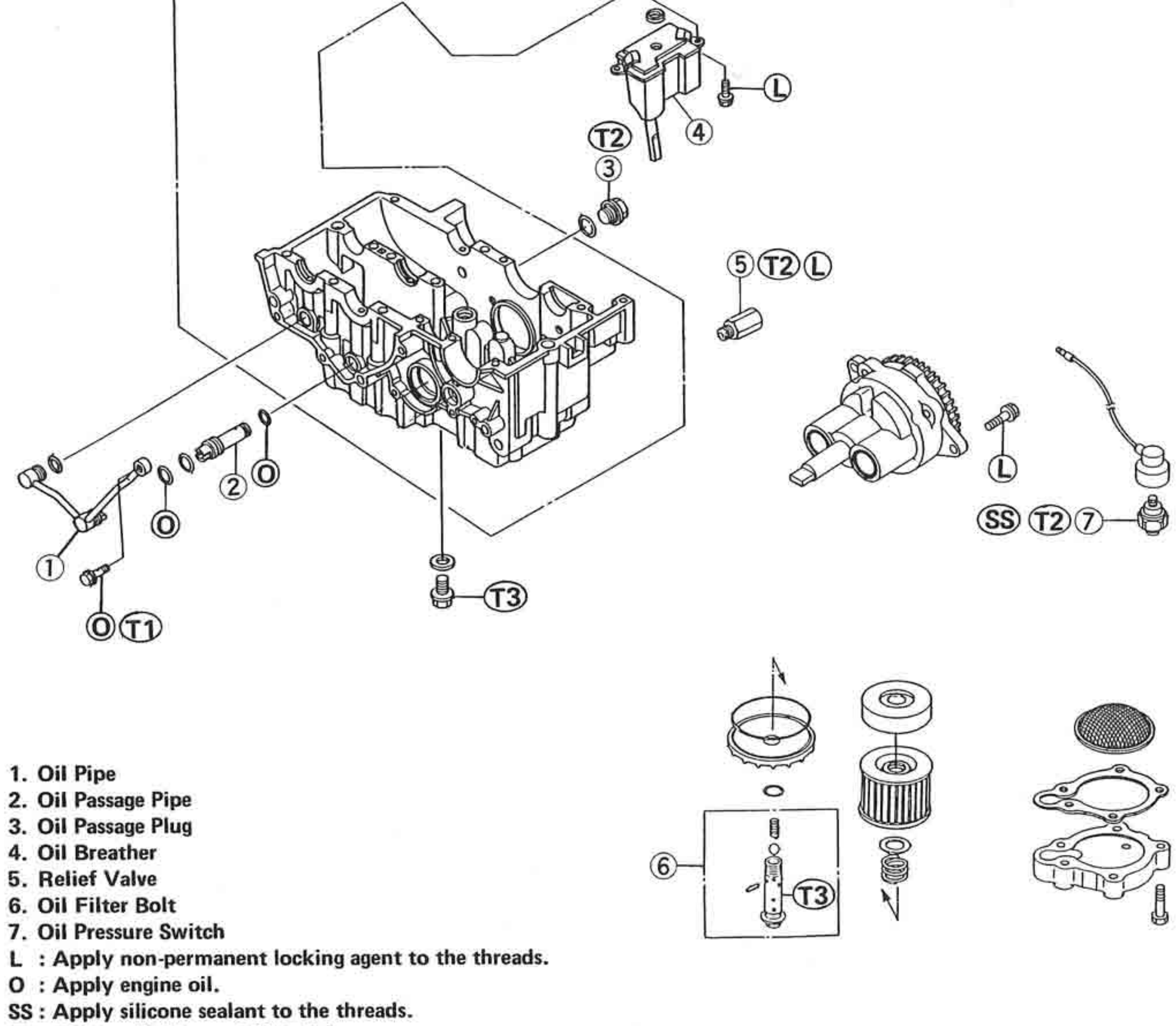
Exploded View





1. Oil Pipe
2. Oil Passage Pipe
3. Oil Passage Plug
4. Oil Breather
5. Relief Valve
6. Oil Filter Bolt
7. Oil Pressure Switch

L : Apply non-permanent locking agent to the threads.
O : Apply engine oil.
SS : Apply silicone sealant to the threads.
T1 : 12 N-m (1.2 kg-m, 104 in-lb)
T2 : 15 N-m (1.5 kg-m, 11.0 ft-lb)
T3 : 20 N-m, (2.0 kg-m, 14.5 ft-lb)

Sealant

Kawasaki Bond (Silicone Sealant): 56019-120

Engine Removal/Installation

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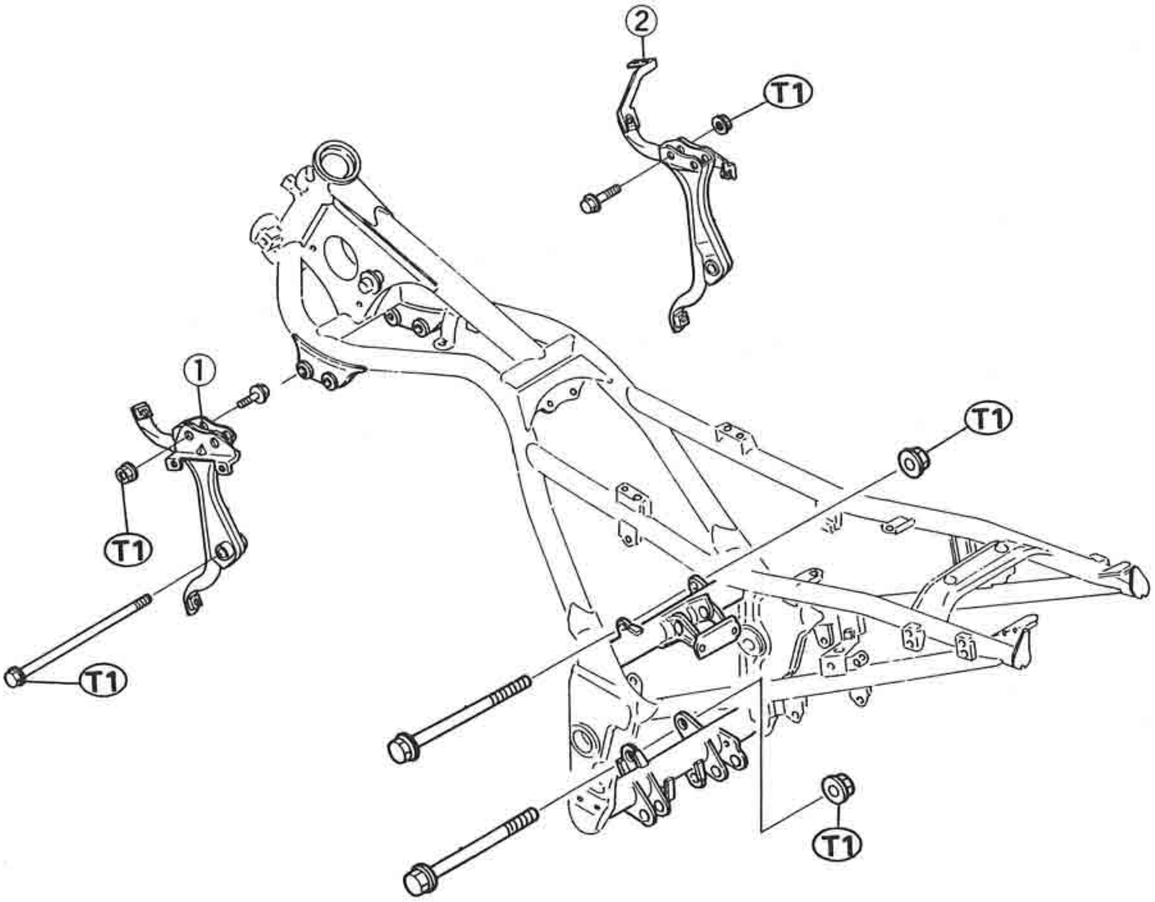
* : Base Manual

Exploded View

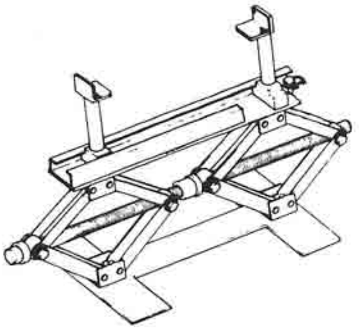


1. Left-Hand Engine Bracket
2. Right-Hand Engine Bracket
T1: 32 N-m (3.3 kg-m, 24 ft-lb)

Special Tool

Jack: 57001-1238

○This tool may be used instead of the common tool.



Engine Removal/Installation

Engine Removal

○Refer to the Base Manual noting the following.

○The engine may be removed with the radiator left installed.

●Remove the upper and lower fairings (see Frame chapter) for engine removal.

CAUTION

○Be careful not to damage the radiator fins during engine removal or installation.

Crankshaft/Transmission

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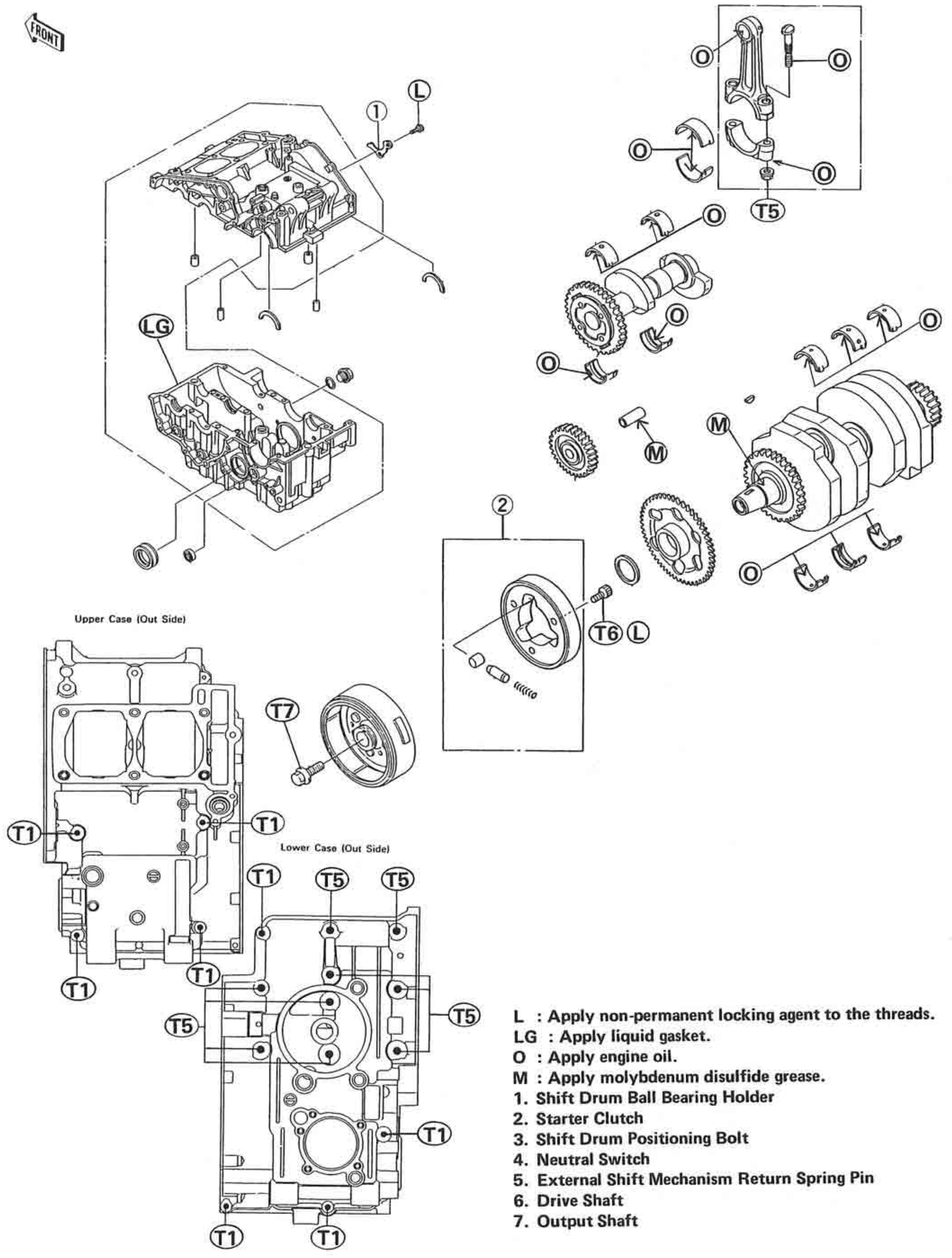
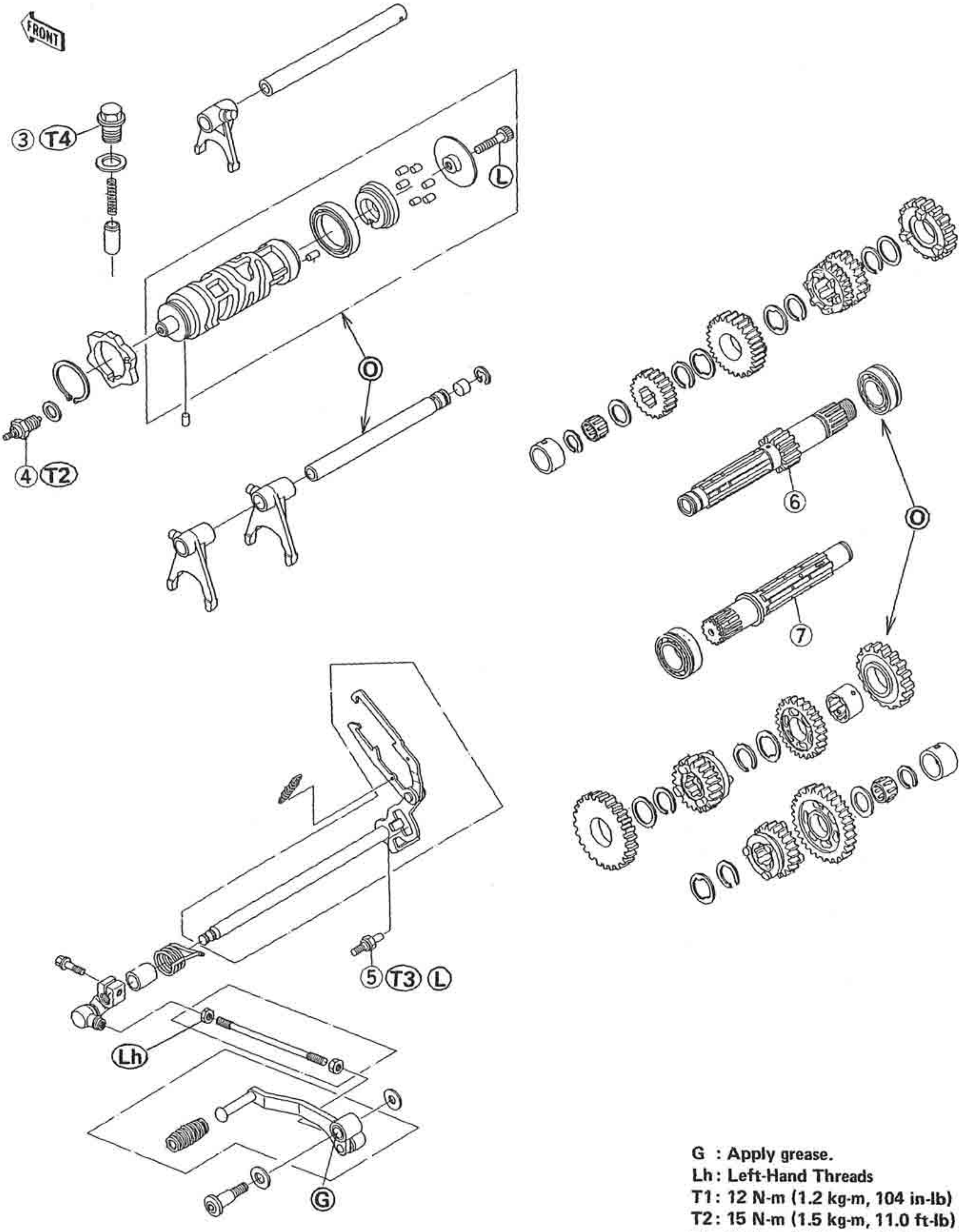
* : Base Manual

Exploded View



L : Apply non-permanent locking agent to the threads.
LG : Apply liquid gasket.
O : Apply engine oil.
M : Apply molybdenum disulfide grease.

1. Shift Drum Ball Bearing Holder
2. Starter Clutch
3. Shift Drum Positioning Bolt
4. Neutral Switch
5. External Shift Mechanism Return Spring Pin
6. Drive Shaft
7. Output Shaft



G : Apply grease.
Lh : Left-Hand Threads
T1 : 12 N-m (1.2 kg-m, 104 in-lb)
T2 : 15 N-m (1.5 kg-m, 11.0 ft-lb)
T3 : 20 N-m (2.0 kg-m, 14.5 ft-lb)
T4 : 25 N-m (2.5 kg-m, 18.0 ft-lb)
T5 : 27 N-m (2.8 kg-m, 20 ft-lb)
T6 : 34 N-m (3.5 kg-m, 25 ft-lb)
T7 : 69 N-m (7.0 kg-m, 51 ft-lb)

Specifications

Refer to the Base Manual noting the following.

Item		Standard	Service Limit
Crankshaft, Connecting Rods:			
Crankpin diameter:		29.984 – 30.000 mm	29.97 mm
Marking	None	29.984 – 29.994 mm	
	○	29.995 – 30.000 mm	
Connecting rod big end bore diameter:		33.000 – 33.016 mm	– – –
Marking	None	33.000 – 33.008 mm	
	1	33.009 – 33.016 mm	

Connecting rod big end bearing insert selection:

Con-Rod Big End Bore Diameter Marking	Crankpin Diameter Marking	Bearing Insert	
		Size Color	Part Number
○	None	Blue	92028-1492
None	None	Black	92028-1493
○	○		
None	○	Brown	92028-1494

Item		Standard	Service Limit
Crankshaft runout		– – –	0.05 mm TIR
Crankshaft main bearing insert, journal clearance		0.014 – 0.038 mm **	0.08 mm
Crankshaft main journal diameter:		27.984 – 28.000 mm	27.96 mm
Marking	None	27.984 – 27.992 mm	
	1	27.993 – 28.000 mm	
Crankcase main bearing bore diameter:		31.000 – 31.016 mm	– – –
Marking	○	31.000 – 31.008 mm	
	None	31.009 – 31.016 mm	

Crankshaft main bearing insert selection:

Crankcase Main Bearing Bore Diameter Marking	Crankshaft Main Journal Diameter Marking	Bearing Insert *		
		Size Color	Part Number	Journal Nos.
○	1	Black	92028-1487	1, 3
			92028-1490	2
None	None	Yellow	92028-1582	1, 3
			92028-1586	2
○	None	Blue	92028-1486	1, 3
None	1		92028-1489	2

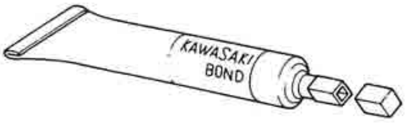
* The bearing inserts for No. 2 journal have an oil groove.

NOTE**

○*Journal clearance less than 0.025 mm can not be measured by plastigauge, however, using genuine parts maintains the minimum standard clearance.*

Sealant

Kawasaki Bond (Liquid Gasket-Black): 92104-1003



Transmission

Refer to the Base Manual noting the following.

External Shift Mechanism Removal Note

- Before removing the shift lever off the shift shaft, mark the position of the lever on the shift shaft so that it can be installed alter in the same position.

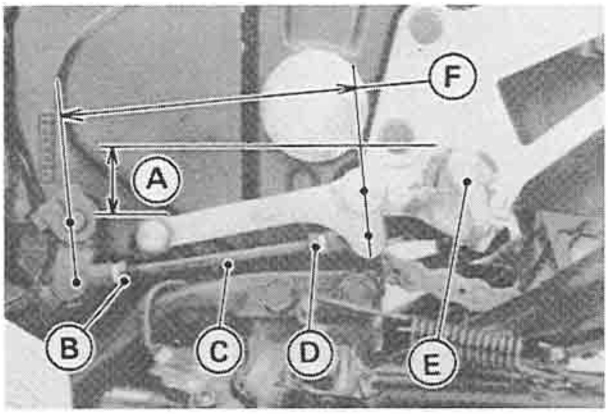
External Shift Mechanism Installation Notes

- Grease the body of the pedal mounting bolt.

○The standard shift pedal position is about **30 mm** lower than the top of the footpeg with the shift levers parallel to each other.

☆If necessary, adjust the pedal position from the standard position to suit you as follows.

- Loosen the front and rear rod locknuts. The front locknut has left-hand threads.
- Turn the rod to adjust the pedal position.
- Tighten the locknuts securely.



A. Pedal Position
B. Front Locknut
C. Rod
D. Rear Locknut
E. Footpeg
F. Almost Parallel

- After adjustment, tighten the locknuts securely.

Wheels/Tires

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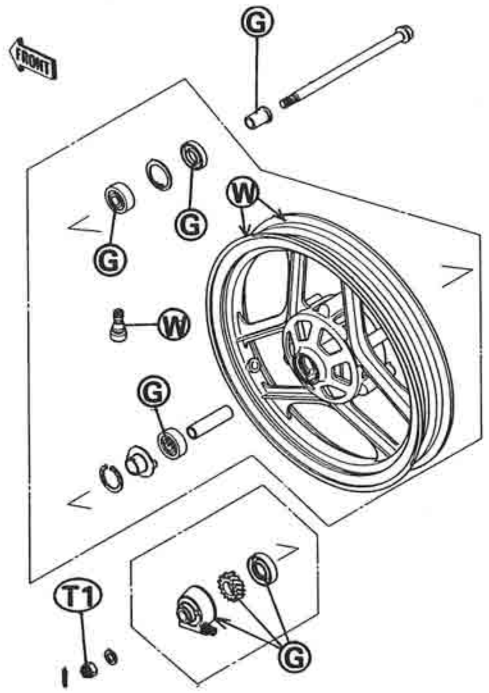
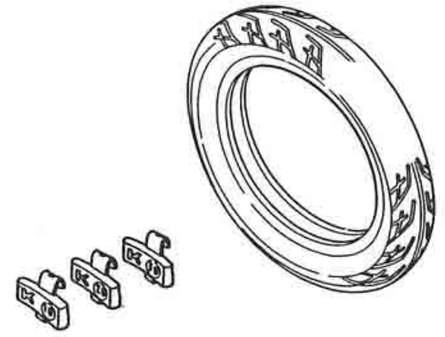
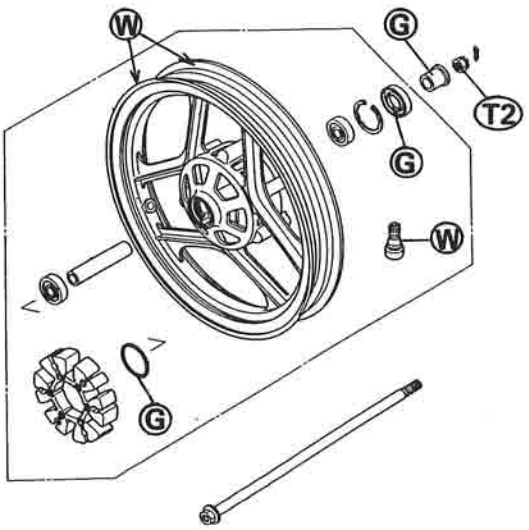
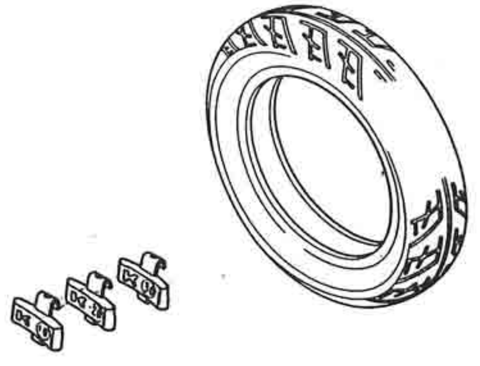








W : Apply soap and water solution, or Rubber Lubricant.
G : Apply grease.
T1 : 88 N-m (9.0 kg-m, 65 ft-lb)
T2 : 110 N-m (11.0 kg-m, 80 ft-lb)

Specifications

Refer to the Base Manual noting the following.

Tire Tread Depth:

Front

Standard:	**4.4 mm**
Service limit:	**1 mm**

Rear

Standard:	**6.4 mm**
Service limit:	**2 mm, under 130 km/h (80 mph)** **3 mm, over 130 km/h (80 mph)**

Standard Tires:

Front

100/80-16 50S TUBELESS
DUNLOP K630F

Rear

130/80-16 64S TUBELESS
DUNLOP K630

Tire Air Pressure (when cold)

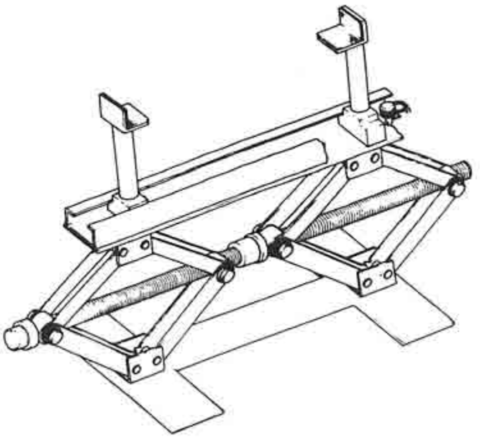
Front	**200 kPa (2.0 kg/cm², 28 psi)**
Rear	**up to 155 kg (342 lb):** **225 kPa (2.25 kg/cm², 32 psi)**

Special Tool

Refer to the Base Manual noting the following additional tool.

Jack: 57001-1238

○This tool may be used instead of the common tool.



Tires

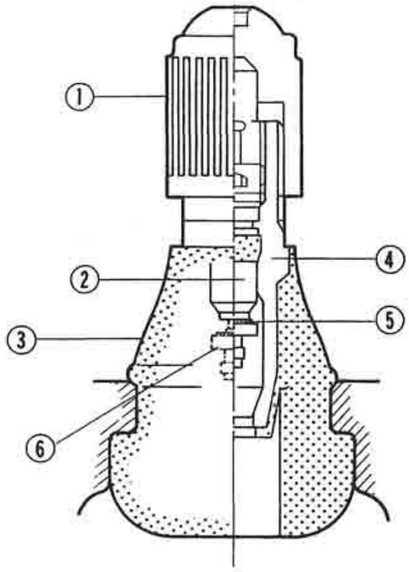
Tire Installation

- Inspect the rim and tire, and replace them if necessary.
- Clean the sealing surfaces of the rim and tire, and smooth the sealing surfaces of the rim with a fine emery cloth if necessary.
- Remove the air valve and discard it.

CAUTION

○**Replace the air valve whenever the tire is replaced.**
○**Do not reuse the air valve.**

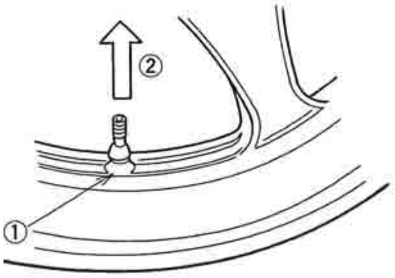
Air Valve



1. Plastic Cap	4. Valve Stem
2. Valve Core	5. Valve Seat
3. Stem Seal	6. Valve Opened

- Install a new air valve in the rim.

○Remove the valve cap, lubricate the stem with a soap and water solution, and pull the stem through the rim from the inside out until it snaps into place.



1. Apply soap and water solution.
2. Pull the stem out.

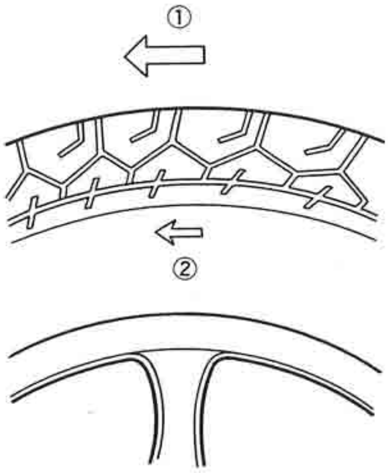
CAUTION

○**Do not use engine oil or petroleum distillates to lubricate the stem because they will deteriorate the rubber.**

- Apply a soap and water solution, or rubber lubricant to the rim flanges, rim protectors, tire beads, and tire irons.
- Check the tire rotation mark on the front and rear tires and install them on the rim accordingly.

NOTE

○*The direction of the tire rotation is shown by an arrow on the tire sidewall.*



1. Rotation Direction
2. Rotation Mark (Arrow)

- Position the tire on the rim so that the valve is at the tire balance mark (the chalk mark made during removal, or the yellow paint mark on a new tire).
- By hand, slide as much as possible of the lower side of the tire bead over the rim flange.
- Fit the rim protectors and tire irons to install the remaining part of the tire bead which cannot be installed by hand. For easy tire installation, position the parts of the bead which is already over the rim flange in the rim well.

NOTE

○*To prevent rim damage, be sure to place the rim protectors at any place the tire irons are applied.*

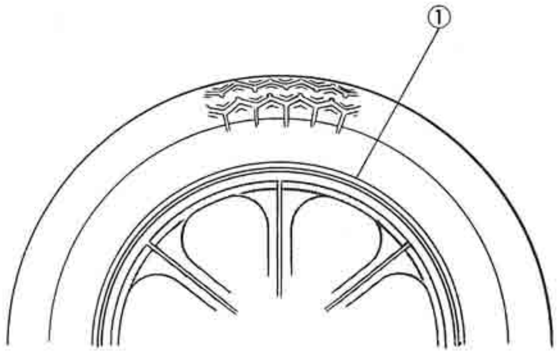
- Install the other side of the tire bead onto the rim in the same manner.
- Lubricate the tire beads and rim flanges with a soap and water solution or rubber lubricant to help seat the tire beads in the sealing surfaces of the rim while inflating the tire.
- Center the rim in the tire beads, and inflate the tire with compressed air until the tire beads seat in the sealing surfaces.

WARNING

○**Be sure to install the valve core whenever inflating the tire, and do not inflate the tire to more than 390 kPa (4.0 kg/cm^2, 57 psi). Overinflation can explode the tire with possibility of injury and loss of life.**

- Check to see that the rim lines on both sides of the tire sidewalls are parallel with the rim flanges.

Rim Line



1. Rim Line

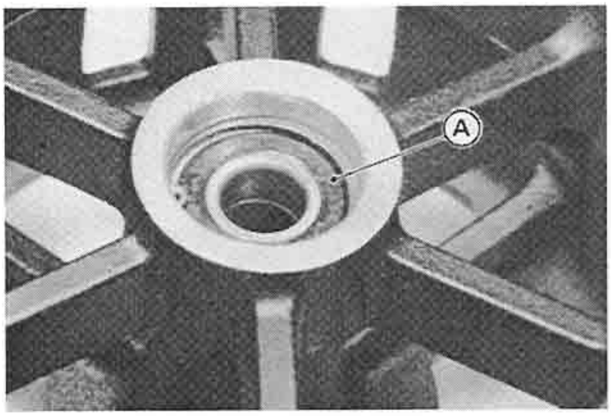
- If the rim flanges and tire sidewall rim lines are not parallel, remove the valve core. Lubricate the rim flanges and tire beads. Install the valve core and inflate the tire again.
- After the tire beads seat in the rim flanges, check for air leaks. Inflate the tire slightly above standard inflation. Use a soap and water solution or submerge the tire, and check for bubbles that would indicate leakage.
- Adjust the air pressure to the specified pressure (see Tire Inspection).
- Install the brake disc.
- Adjust the wheel balance (see Wheel Balance in the Base Manual).

Hub Bearings

Refer to the Base Manual noting the following.

Front Hub Bearing Installation

- Inspect the bearings and replace them if necessary. Lubricate and install them using the bearing driver set (special tools) so that the marked or seal side faces out.



A. Bearing Seal

Rear Hub Bearing Removal

○Since the rear hub bearings are packed with grease and sealed, they are not required to be removed for lubrication.

Hub Bearing Inspection and Lubrication

●Wash the front hub bearing with a high-flash point solvent, dry it (do not spin it while it is dry), and oil it. Spin it by hand to check its condition.

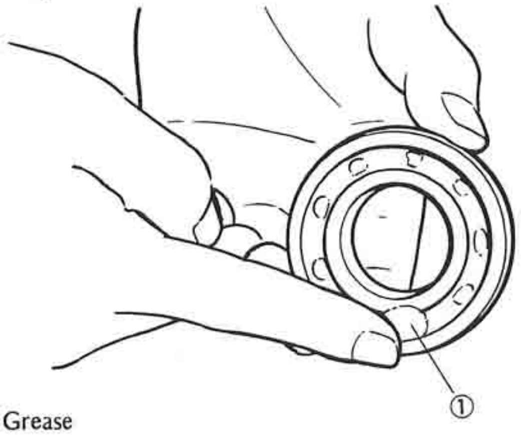
★If it is noisy, does not spin smoothly, or has any rough spots, it must be replaced.

●Examine the bearing seal for tears or leakage.

★If the seal is torn or is leaking, replace the bearing.

●If the same bearing is to be used again, rewash it with a high-flash point solvent, dry and pack it with good quality bearing grease before installation. Turn the bearing by hand a few times to make sure the grease is distributed uniformly inside the bearing, and wipe the old grease out of the hub before bearing installation.

Bearing Lubrication



1. Grease

NOTE

○*Since the rear hub bearings are packed with grease and sealed, they can not be lubricated.*

●Turn each rear hub bearing back and forth while checking for roughness or binding.

★If roughness or binding is found, replace the bearing.

●Examine the bearing seal for tears or leakage.

★If the seal is torn or is leaking, replace the bearing.

Final Drive

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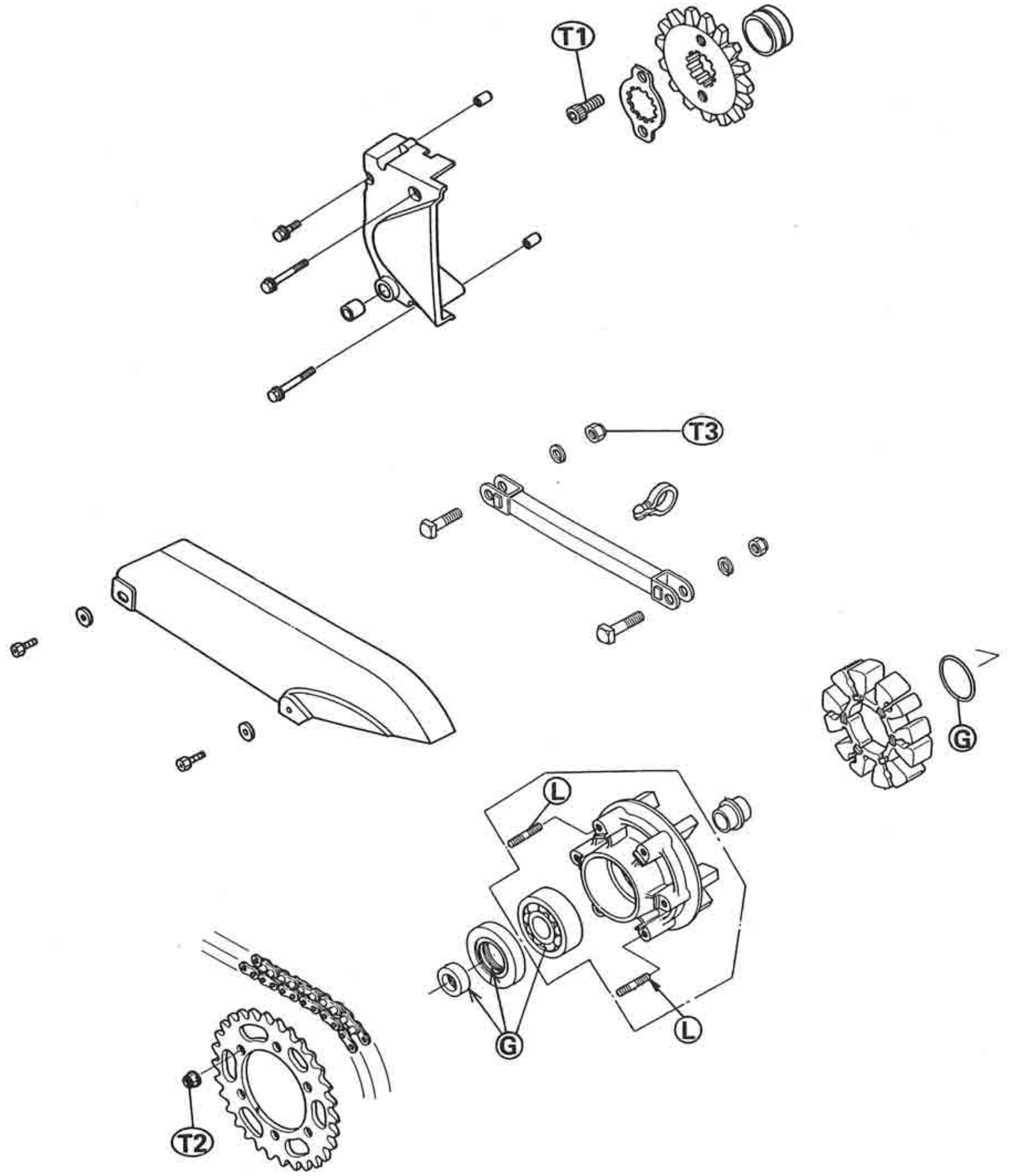

L : Apply non-permanent locking agent.
G : Apply grease.
T1: 9.8 N-m (1.0 k-m, 87 in-lb)
T2: 67 N-m (6.8 kg-m, 49 ft-lb)
T3: 32 N-m (3.3 kg-m, 24 ft-lb)

Specifications

Item	Standard	Service Limit
Drive Chain:		
Make and type	Enuma Endless EK520 MV-O 106L	– – –
Rear Sprocket:		
Teeth No.	45	– – –
Rear sprocket diameter	217.33 – 217.88 mm	217.0 mm

Sprocket, Coupling

Coupling Bearing Inspection and Lubrication

Refer to the Base Manual noting the following.

○Periodic maintenance is not required. If necessary or whenever the coupling is removed, inspect and grease the bearings.

Brakes

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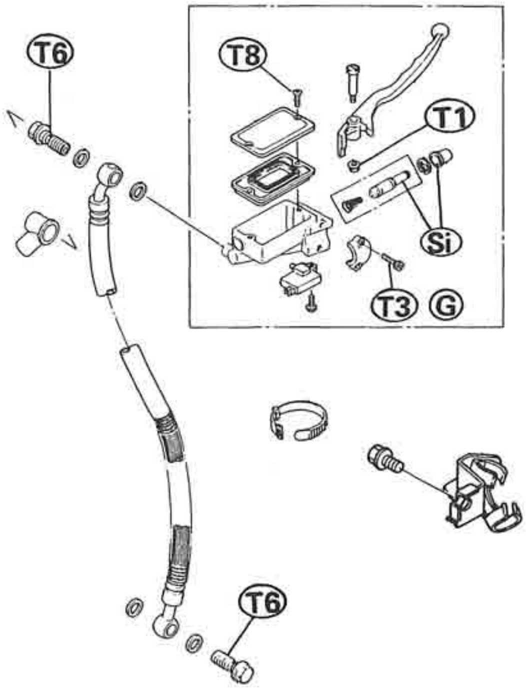
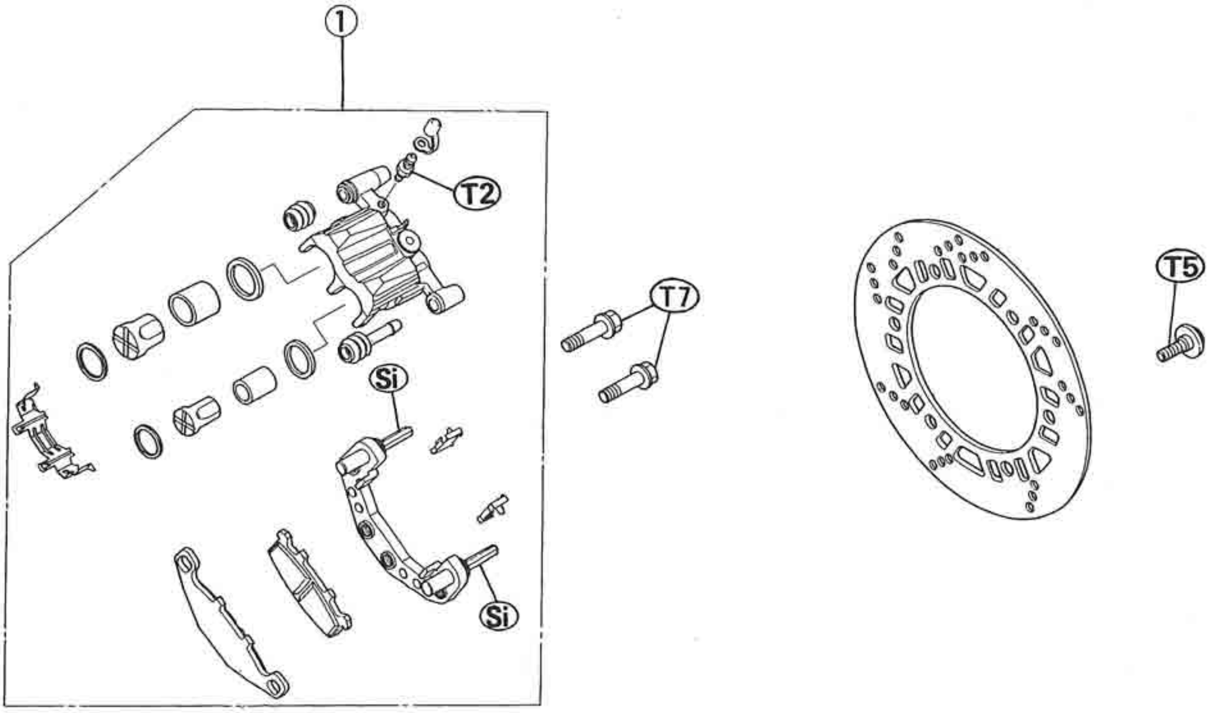
* : Base Manual

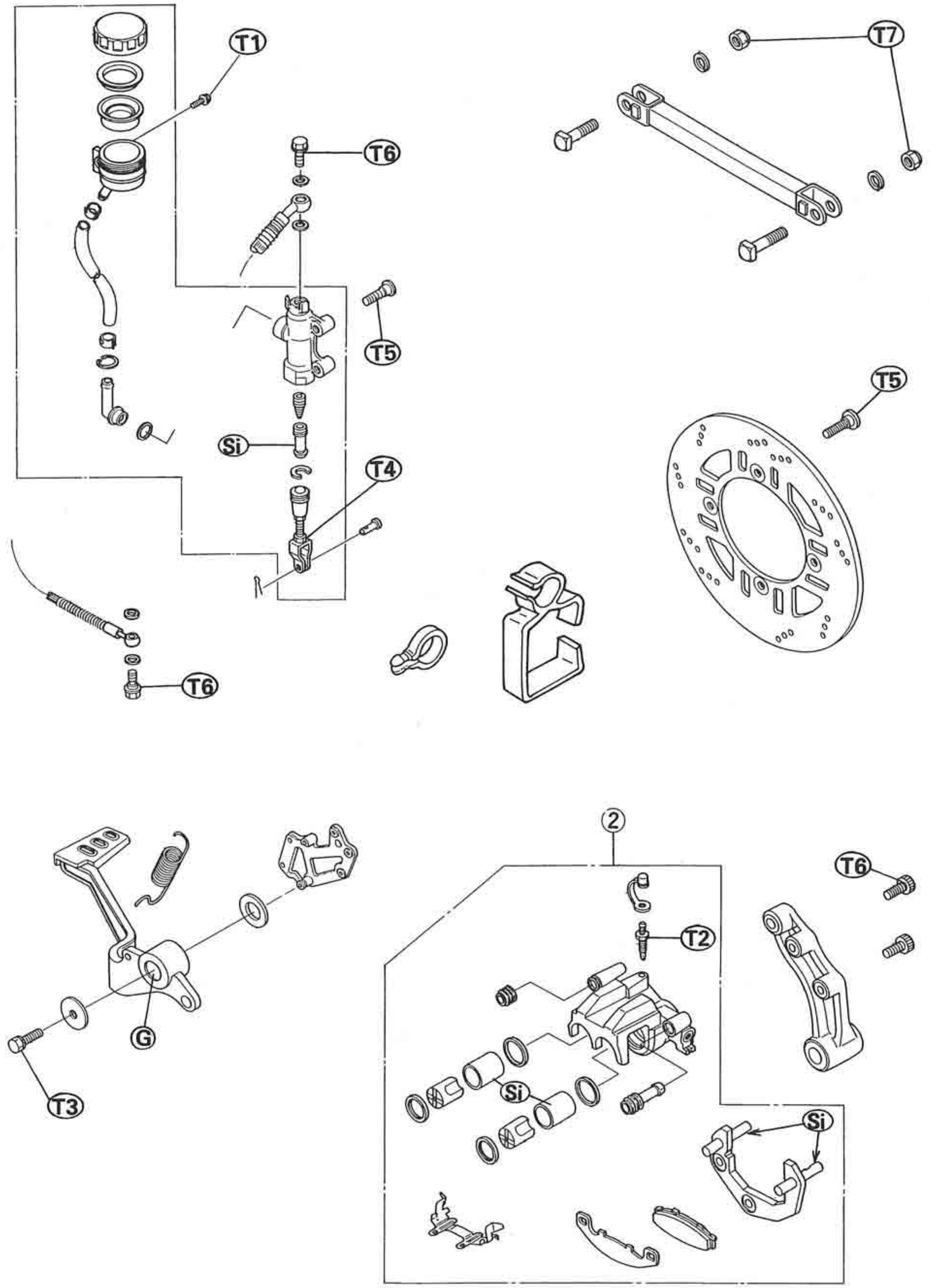
Exploded View

1. **BAC (Balanced Actuation Caliper)**
2. **Dual-Piston Caliper**

G : Apply grease.
Si : Apply silicone grease.
T1 : 5.9 N-m (0.60 kg-m, 52 in-lb)
T2 : 7.8 N-m (0.80 kg-m, 69 in-lb)
T3 : 8.8 N-m (0.90 kg-m, 78 in-lb)
T4 : 18 N-m (1.8 kg-m, 13.0 ft-lb)
T5 : 23 N-m (2.3 kg-m, 16.5 ft-lb)
T6 : 25 N-m (2.5 kg-m, 18.0 ft-lb)
T7 : 32 N-m (3.3 kg-m, 24 ft-lb)
T8 : 1.5 N-m (0.15 kg-m, 13 in-lb)






T1
T6
T5
Si
T4
T6
T7
T5
2
T6
T2
Si
Si
G
T3

Specifications

Refer to the Base Manual noting the following.

Item		Standard	Service Limit
Brake Fluid Grade		DOT 3 (DOT 4)	
Front Disc Brake:	Pad lining thickness	4.35 mm	1 mm
Rear Disc Brake:	Pad lining thickness	4.35 mm	1 mm
	Disc thickness	4.8 – 5.1 mm	4.5 mm

(   ) : EX250-F6~

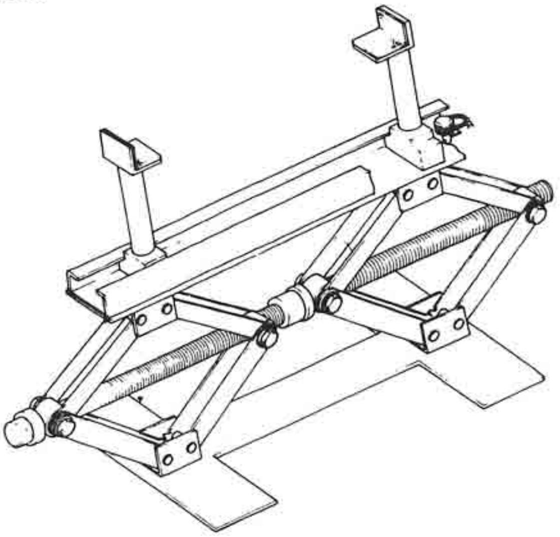
Recommended Disc Brake Fluid
Grade : DOT 4

Special Tool

Refer to the Base Manual noting the following additional tool.

Jack: 57001-1238

○This tool may be used instead of the common hand tool.



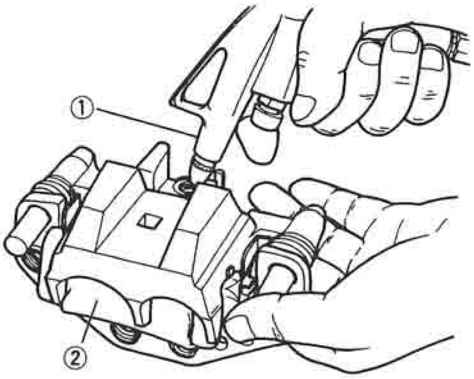
Calipers

Caliper Disassembly Notes

- ●Using compressed air, remove the piston.
- ○Cover the caliper opening with a clean, heavy cloth.
- ○Remove the piston by lightly applying compressed air to where the brake line fits into the caliper.

WARNING

○To avoid serious injury, never place your fingers or palm inside the caliper opening. If you apply compressed air into the caliper, the piston may crush your hand or fingers.

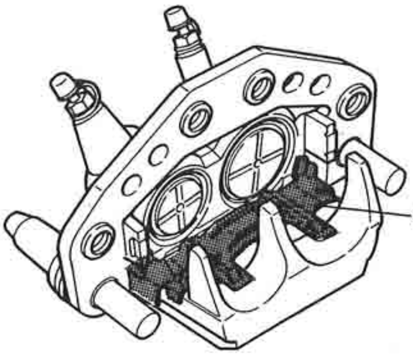


1. Apply compressed air.   2. Cloth

Caliper Assembly Notes

- Apply brake fluid to the outside of the piston and the fluid seal, and push the piston into the cylinder by hand. Take care that neither the cylinder nor the piston skirt get scratched.
- Apply a thin coat of silicone grease to the caliper holder shafts and holder holes (silicone grease is a special high temperature, water-resistant grease).
- Install the anti-rattle spring in the caliper as shown.

Anti-Rattle Spring Installation



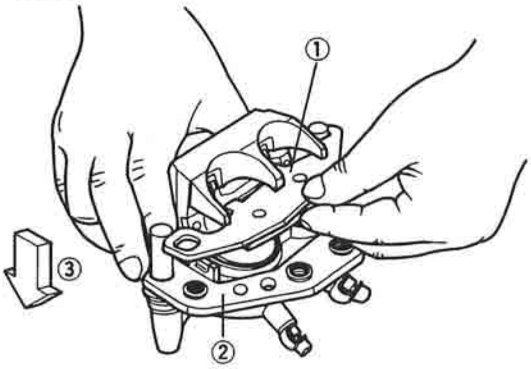
1. Anti-Rattle Spring

Brake Pads

Brake Pad Removal

- Remove the caliper (see Front or Rear Caliper Removal).
- Take off the piston side pad from the caliper holder.
- Push the caliper holder to the piston side, and then remove the pad from the caliper holder shaft.

Pad Removal



1. Pad
2. Caliper Holder
3. Push the caliper holder.

Brake Pad Installation Notes

- Push the caliper pistons in by hand as far as they will go and install the pads.

WARNING

○**Do not attempt to drive the motorcycle until a full brake lever or pedal is obtained by pumping the brake lever or pedal until the pads are against the disc. The brake will not function on the first application of the lever or pedal if this is not done.**

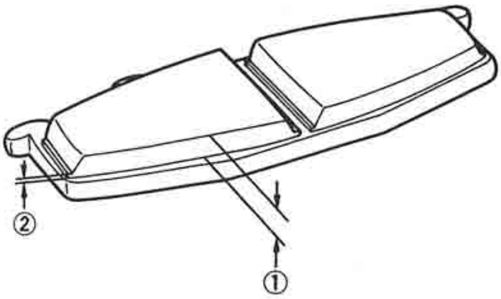
Brake Pad Lining Wear

★If the lining thickness of either pad is less than the service limit, replace both pads in the caliper as a set.

Pad Lining Thickness

Standard:	**4.35 mm**
Service Limit:	**1 mm**

Brake Pad



1. Lining Thickness
2. Service Limit

Suspension

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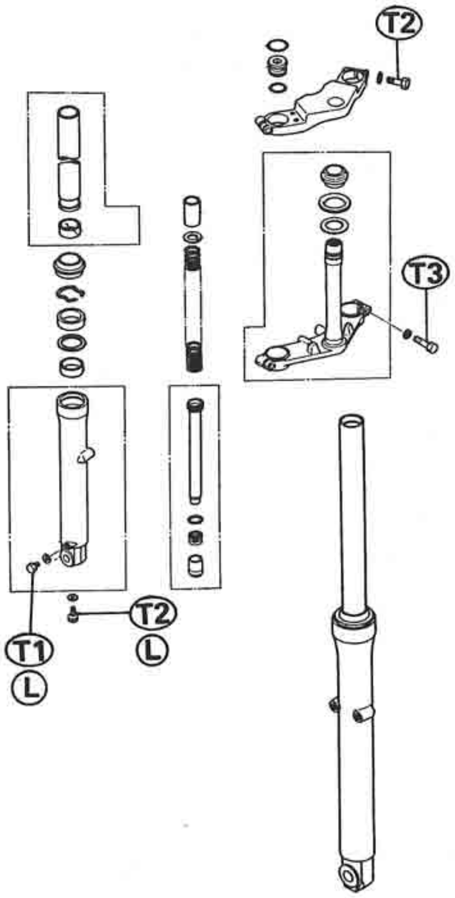
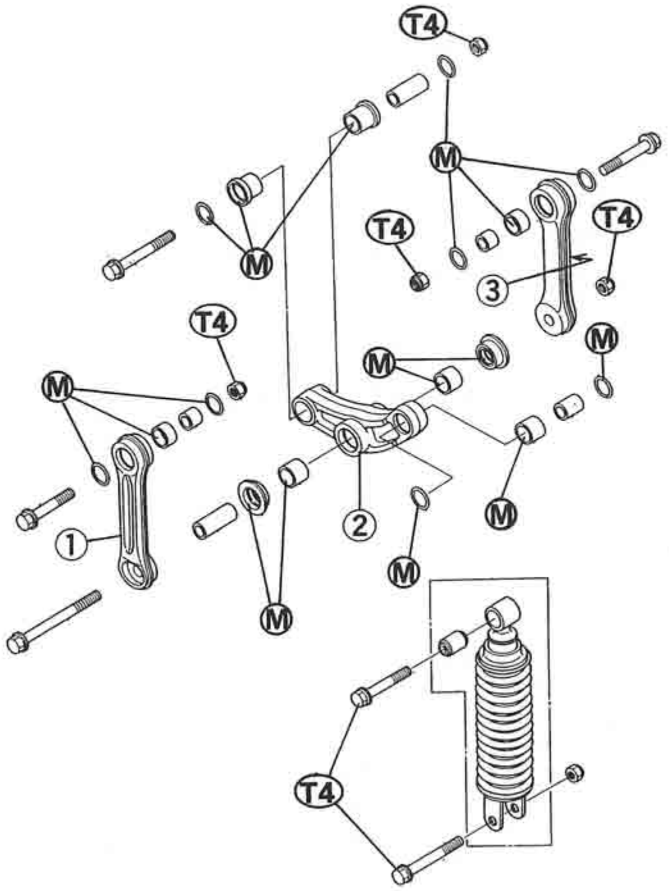
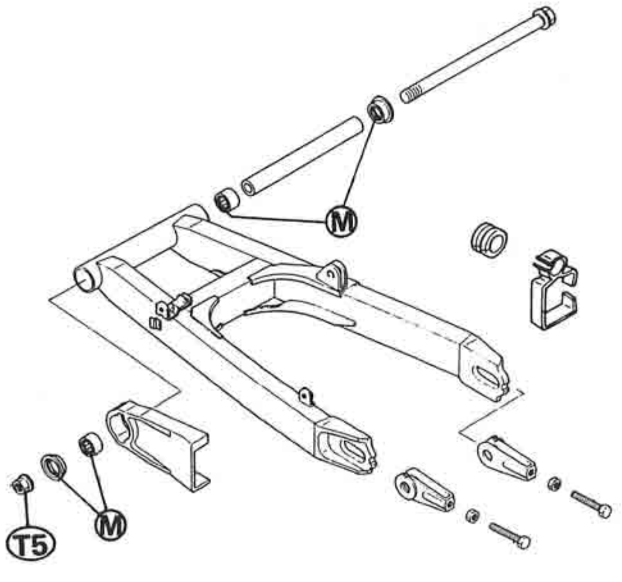
* : Base Manual

Exploded View







1. **Left-Hand Tie-Rod**
2. **Rocker Arm**
3. **Right-Hand Tie-Rod**

L : Apply non-permanent locking agent to the threads.
M : Apply molybdenum disulfide grease.
T1 : 7.8 N-m (0.80 kg-m, 69 in-lb)
T2 : 20 N-m (2.0 kg-m, 14.5 ft-lb)
T3 : 29 N-m (3.0 kg-m, 22 ft-lb)
T4 : 44 N-m (4.5 kg-m, 33 ft-lb)
T5 : 88 N-m (9.0 kg-m, 65 ft-lb)

Specifications

Front Fork (per one unit)

Front fork inner tube diameter: ϕ36 mm
Fork oil viscosity: SAE 10W-20
Fork oil capacity: 268 ±2.5 mL (completely dry)
approx. 230 mL (when changing oil)
Fork oil level: 205 ±2 mm below from top of inner tube (fully compressed, without main spring)
Fork spring free length:
Standard: 463.8 mm
Service limit: 455 mm

Rear Shock Absorber

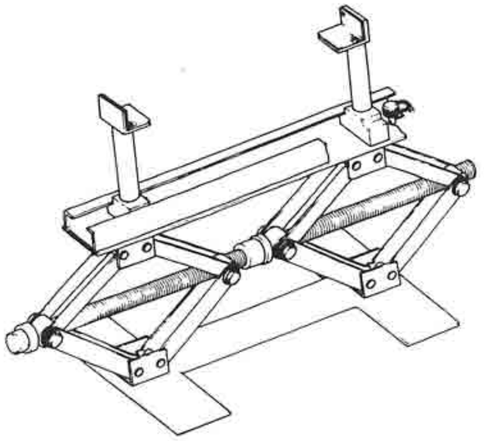
Spring preload setting: Non-adjustable

Special Tool

Refer to the Base Manual noting the following additional tool.

Jack: 57001-1238

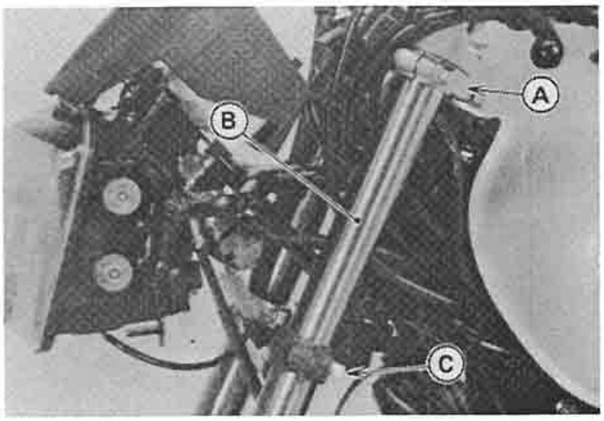
○This tool may be used instead of the common tool.



Front Fork

Front Fork Removal (each fork leg)

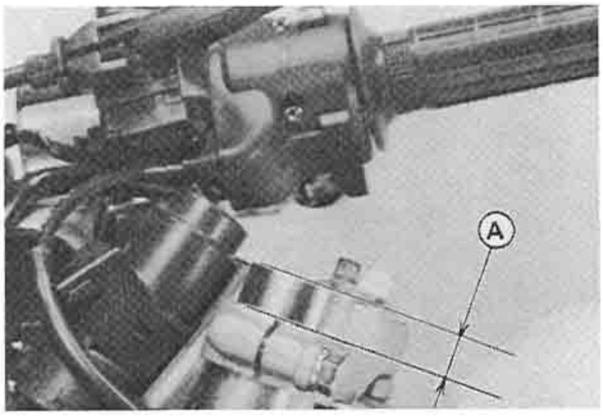
- Remove the following parts.
  - Lower Fairing (see Frame chapter in this text)
  - Upper Fairing (see Frame chapter in this text)
  - Front Wheel (see Base Manual)
  - Handlebar
- Loosen the upper and lower fork clamp bolts.
- With the twisting motion, work the fork leg down and out.



A. Upper Clamp Bolt C. Lower Clamp Bolt
B. Fork Leg

Front Fork Installation (each fork leg)

- Install the fork leg so that the top of the inner tube is about **12 mm** above the upper surface of the stem head.



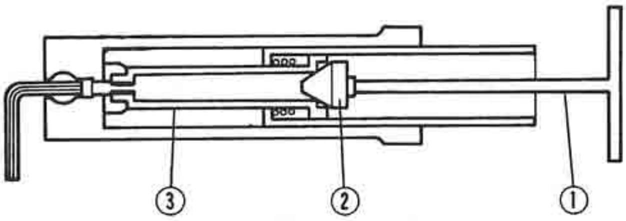
A. 12 mm

- If the fork leg was disassembled, check the fork oil level.
- Tighten the following bolts to the specified torque.
  Upper and Lower Clamp Bolts (see Exploded View)
  Caliper Mounting Bolts (see Exploded View in the Brakes chapter)
  Front Axle Nut (see Exploded View in the Wheels/Tires chapter)
- Check the front brake after installation.

Front Fork Disassembly

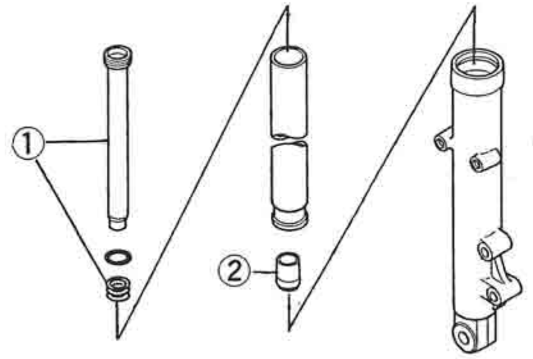
- Remove the retaining ring, top plug, spring, and spring seat.
- Pour out the fork oil.
- Remove the front fork leg (see Front Fork Removal).
- Stop the cylinder from turning by using the front fork cylinder holder handle and adapter (special tools). Unscrew the Allen bolt and take the bolt, and gasket out of the bottom of the outer tube.

Front Fork Cylinder Removal



1. Front Fork Cylinder Holder Handle: 57001-183
2. Adapter: 57001-1057
3. Front Fork Cylinder

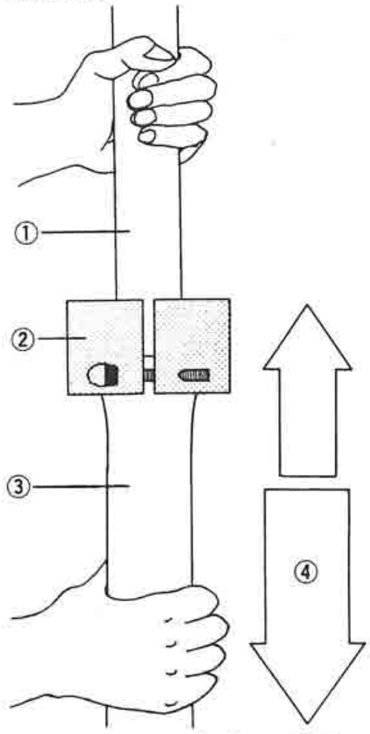
- Remove the piston and the rebound spring from the top of the inner tube and the cylinder base from the outer tube.



1. Cylinder Unit with Rebound Spring
2. Cylinder Base

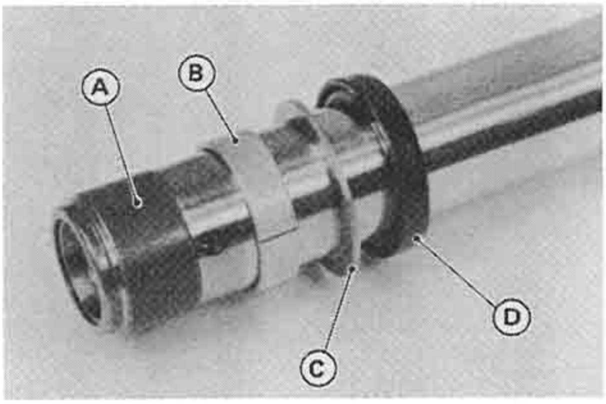
- Remove the dust seal and oil seal retainer ring from the outer tube.
- Use the fork outer tube weight (special tool) to separate the inner tube from the outer tube.
  ○ Holding the inner tube by hand in a vertical position, pull down the outer tube several times to pull out the inner tube.

Front Fork Separation



1. Inner Tube
2. Weight: 57001-1218
3. Outer Tube
4. Pull down.

○ The oil seal, washer, and guide bushes come off with the inner tube.

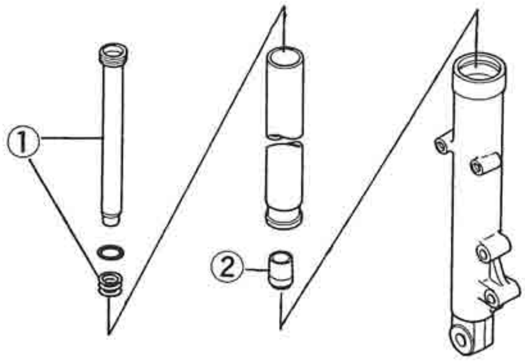


A. Inner Tube Guide Bush
B. Outer Tube Guide Bush
C. Washer
D. Oil Seal

Front Fork Assembly

○Fork assembly is the reverse of disassembly. Note the following.

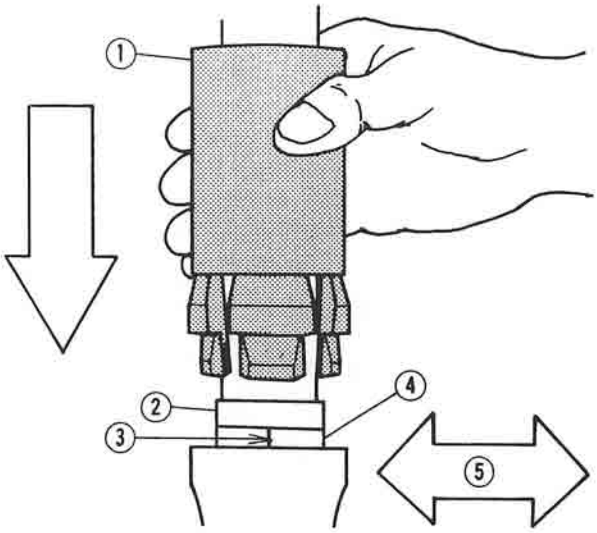
- ●Check the top plug O-rings for damage. Replace them with new ones if damaged.
- ●Replace the oil seal removed with a new one.
- ●Inspect the guide bushes (see Guide Bush Inspection), and replace them with new ones if necessary.
- ●Insert the cylinder unit with the short spring installed into the inner tube.
- ●Insert the cylinder base in the bottom of the outer tube.
- ●Insert the inner tube and cylinder as a set into the outer tube.



1. Cylinder Unit with Rebound Spring
2. Cylinder Base

- ●If the drain bolt was removed, check the gasket for damage. Replace the damaged gasket with a new one.
- ●Apply non-permanent locking agent to the Allen bolt.
- ●Tighten the Allen bolt to the specified torque, using the front fork cylinder holder handle (special tool: PN 57001-183) and holder adapter (special tool: PN 57001-1057) to stop the cylinder from turning.
- ●Install the outer tube guide bush with a used guide bush as a tool by tapping the used guide bush with the driver (special tool) until it stops. The split of the bush must be faced toward the right or left.
- ●Install the washer.
- ●Replace the oil seal with a new one.
- ●Apply oil to the outside of the inner tube and install the oil seal with the same driver (special tool: 57001-1219) so that the marked side faces out.

Guide Bush Installation



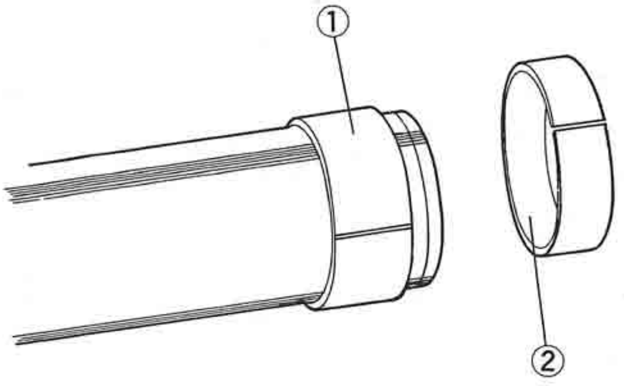
1. Driver: 57001-1219
2. Used Guide Bush
3. Split
4. New Guide Bush
5. Front and Rear

- ●Install the dust seal and circlip by hand.
- ●Pour in the type and amount of fork oil specified (see Specifications), and adjust the oil level.
- ●Install the fork main spring so that the smaller diameter end is facing down.

Guide Bush Inspection

- ●Visually inspect the internal surface of the outer tube guide bush and the external surface of the inner tube guide bush.

★Replace the bushings, if they have excessive scoring, scratching, or abnormal wear.



1. Inner Tube Guide Bush 2. Outer Tube Guide Bush

Rear Suspension (Uni-Trak)

Rear Shock Absorber:

Rear Shock Absorber Adjustment

○The spring preload can not be adjusted.

Rear Shock Absorber Removal

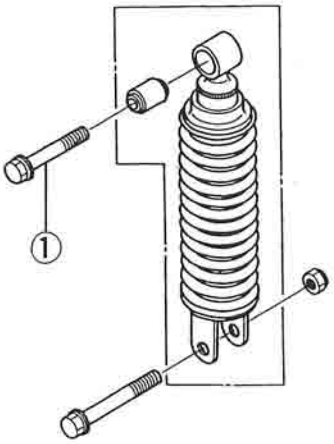
○The shock absorber upper mounting nut is welded on the frame.

○It is not necessary to remove the coolant reservoir tank and the IC igniter for rear shock removal.

●Remove the following parts.

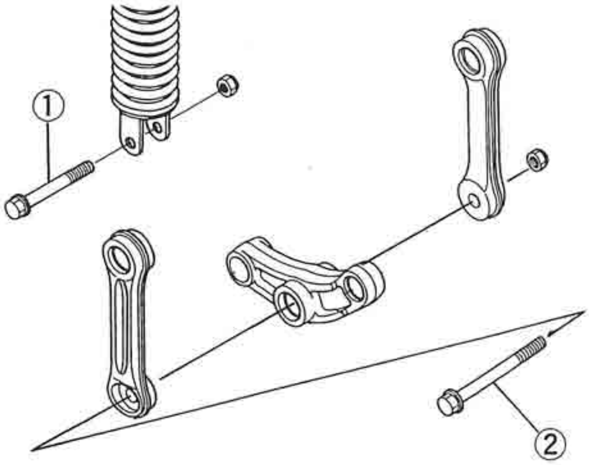
Seat (see Frame chapter in this text)
Left Side Cover (see Frame chapter in this text)

●Loosen the upper shock absorber nut. Do not remove it yet.



1. Upper Shock Absorber Bolt

●Remove the lower shock absorber bolt and the tie-rod lower bolt and nut.



1. Lower Shock Absorber Bolt and Nut
2. Tie-Rod Lower Bolt and Nut

●Set the motorcycle on its center stand to lift the rear wheel off the ground.

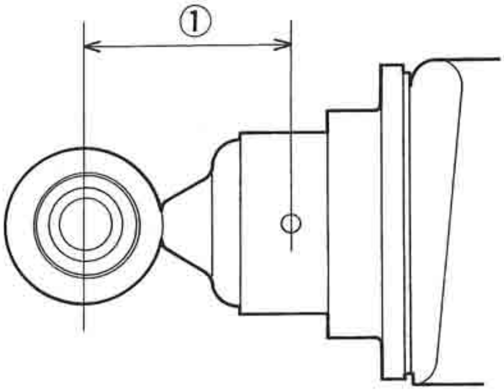
●Remove the upper shock absorber bolt, then take off the rear shock absorber unit toward the ground.

Rear Shock Absorber Scrapping

WARNING

○Since the rear shock absorber contains nitrogen gas, do not incinerate the rear shock absorber without first releasing the gas or it may explode.

○Before a rear shock absorber is scrapped, drill a hole at a point about 40 mm up from the bottom of the cylinder to release the nitrogen gas completely. Wear safety glasses when drilling the hole, as the gas may blow out bits of drilled metal when the hole opens.



1. 40 mm

Steering

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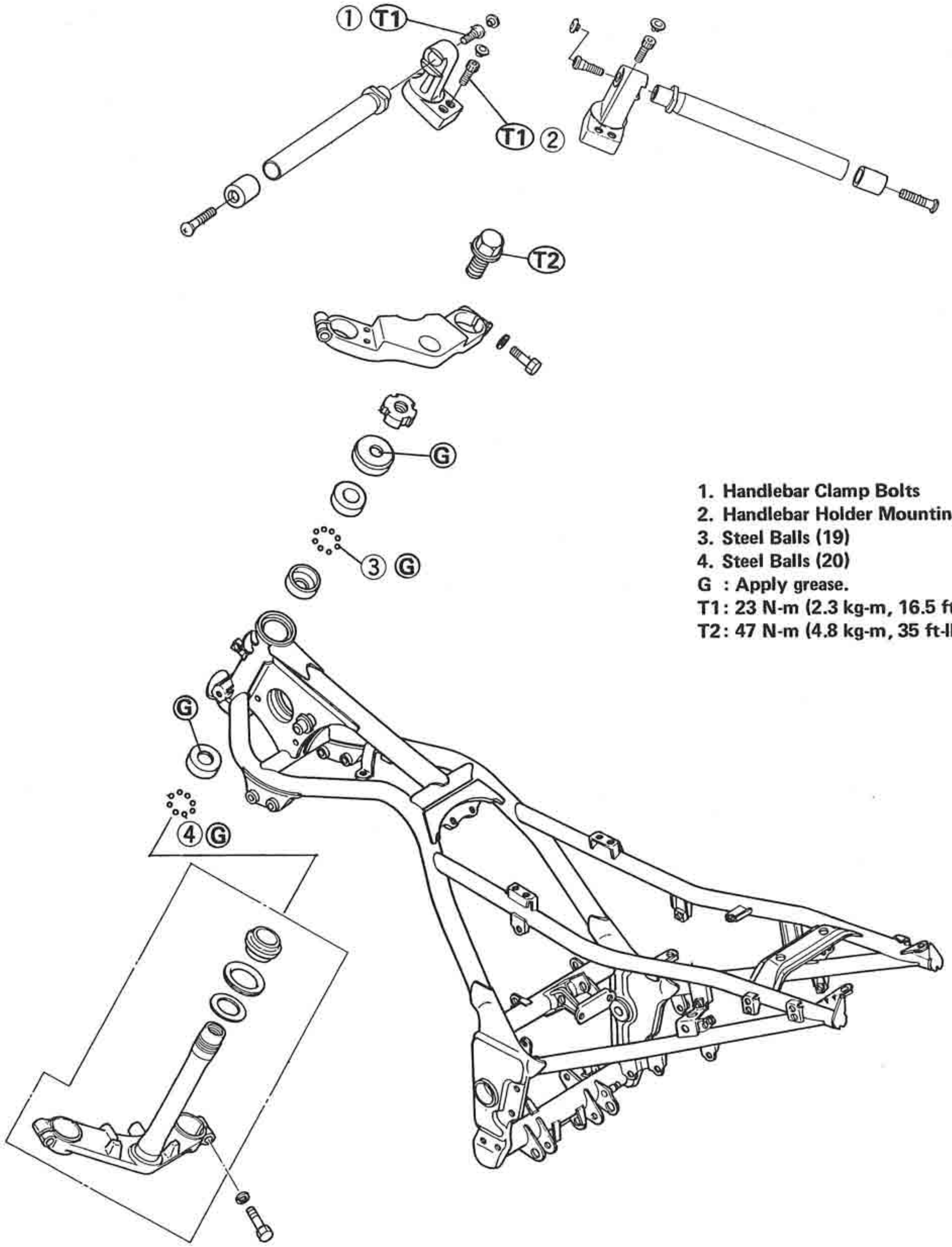
* : Base Manual

Exploded View



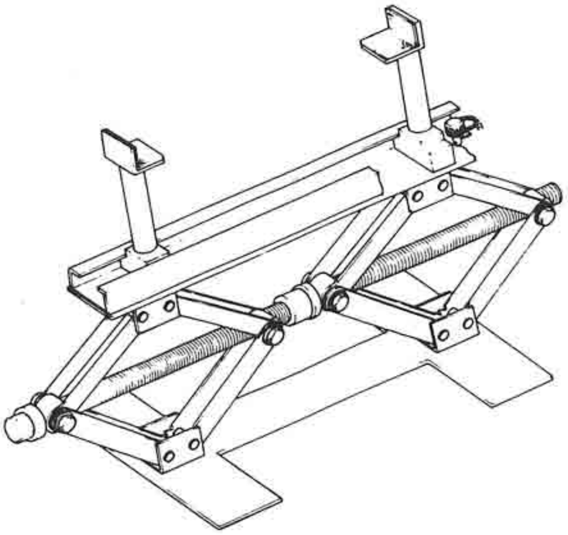
1. Handlebar Clamp Bolts
2. Handlebar Holder Mounting Bolts
3. Steel Balls (19)
4. Steel Balls (20)

G : Apply grease.
T1: 23 N-m (2.3 kg-m, 16.5 ft-lb)
T2: 47 N-m (4.8 kg-m, 35 ft-lb)

Special Tool

Refer to the Base Manual noting the following additional tool.

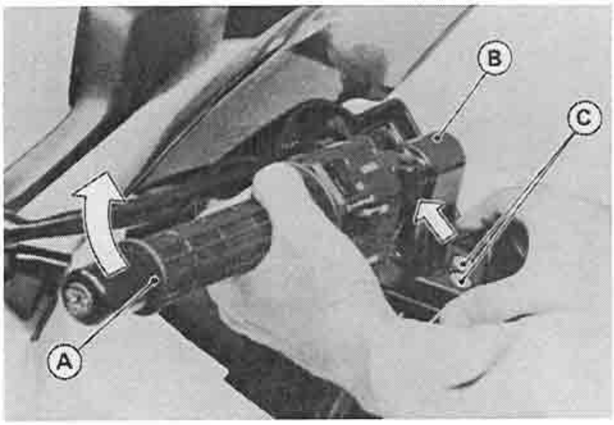
Jack: 57001-1238
○This tool may be used instead of the common tool.



Handlebar

Handlebar Holder Installation Notes

- When tightening the handlebar holder mounting bolts, with handlebar end and holder pushed as forward as possible, tighten the holder mounting Allen bolts to the specified torque (see Exploded View). This prevents the left swich housing from hitting the fuel tank when the steering is turned fully left.



A. Handlebar Ends
B. Handlebar Holders
C. Mounting Allen Bolts

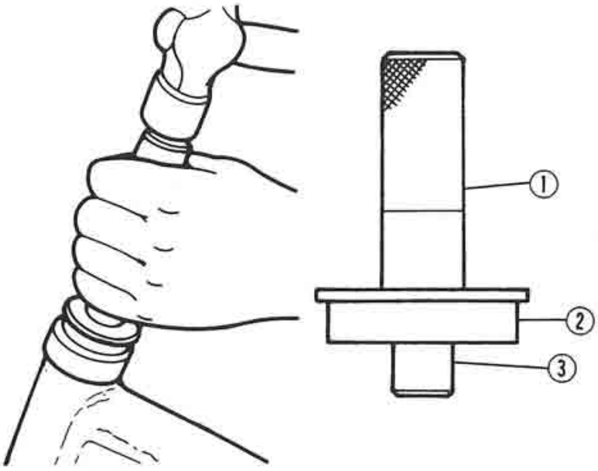
Steering Removal/Installation

Steering Stem Installation

NOTE

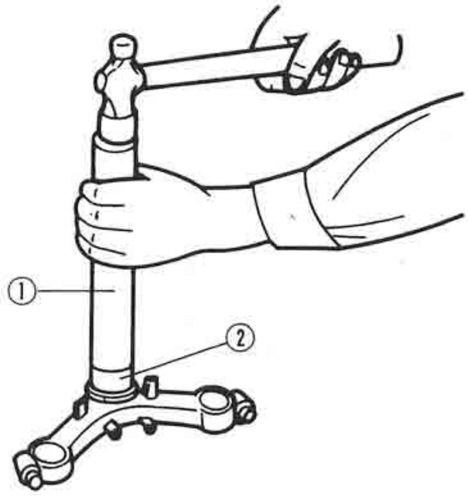
○Do not confuse the adjustment procedure with the new bearing installation procedure. Installation of new bearings requires that you torque the stem locknut to seat the races, then loosen the locknut and proceed with the adjustment procedure.

- Apply oil to the outer races, and drive the races into the head pipe using the bearing driver and bearing driver holder (special tools). Be sure to drive them in until they stop at the stepped portion in the head pipe.



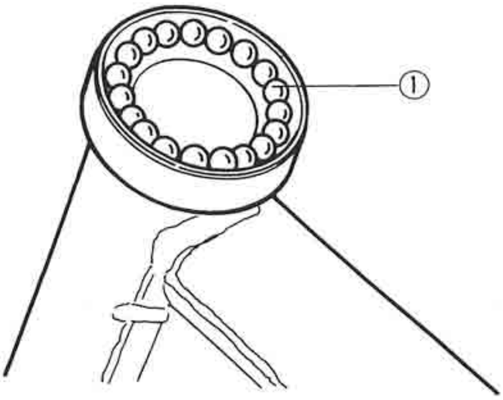
1. Bearing Driver Holder
2. Bearing Driver
3. Bearing Driver

- Apply oil to the lower inner race, and drive it onto the steering stem using the stem bearing driver and adapter (special tools). Be sure to press it in until it stops at the stem base.



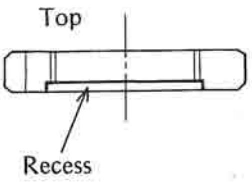
1. Stem Bearing Driver: 57001-137
2. Adapter: 57001-294

- Apply grease to the upper and lower outer races in the head pipe so that the steel balls will stick in place during stem insertion. Install the upper steel balls (19) and lower steel balls (20). All the steel balls are the same size.



1. Steel Balls

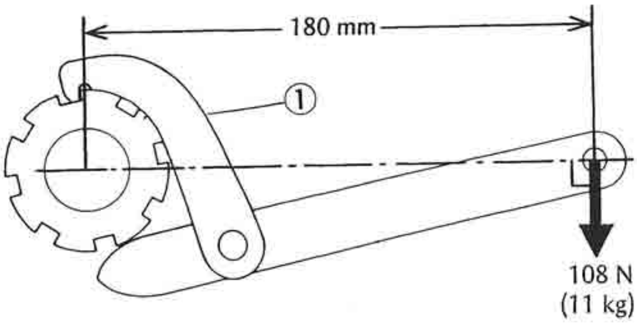
- Put on the upper inner race and steering stem cap and insert the steering stem into the head pipe.
- Install the locknut so that the recessed side faces down.



The following steps should be performed after steering bearing installation. This procedure settles the bearings in place.

○ Using the stem nut wrench, tighten the stem locknut to **20 N-m (2 kg-m, 14.5 ft-lb)** of torque. To tighten the locknut to the specified torque, hook the wrench on the stem locknut, and pull the wrench at the hole with **11 kg** of force in the direction shown.

Torque Stem Locknut to Seat Bearings



1. Stem Nut Wrench: 57001-1100

○ Check that there is no play and that the steering stem turns smoothly without looseness. Otherwise, the steering stem bearings may be damaged.

○ Again back out the stem locknut a fraction of turn until it turns lightly.

- Adjust the steering (see Steering Adjustment).
- Reinstall the parts removed.
- Route the cables and harnesses correctly. The cables and wiring harnesses must not hinder handlebar movement.
- Check and adjust the following items.
  - Front Brake
  - Clutch
  - Throttle Cables
  - Rear View Mirrors
  - Headlight Aim

Frame

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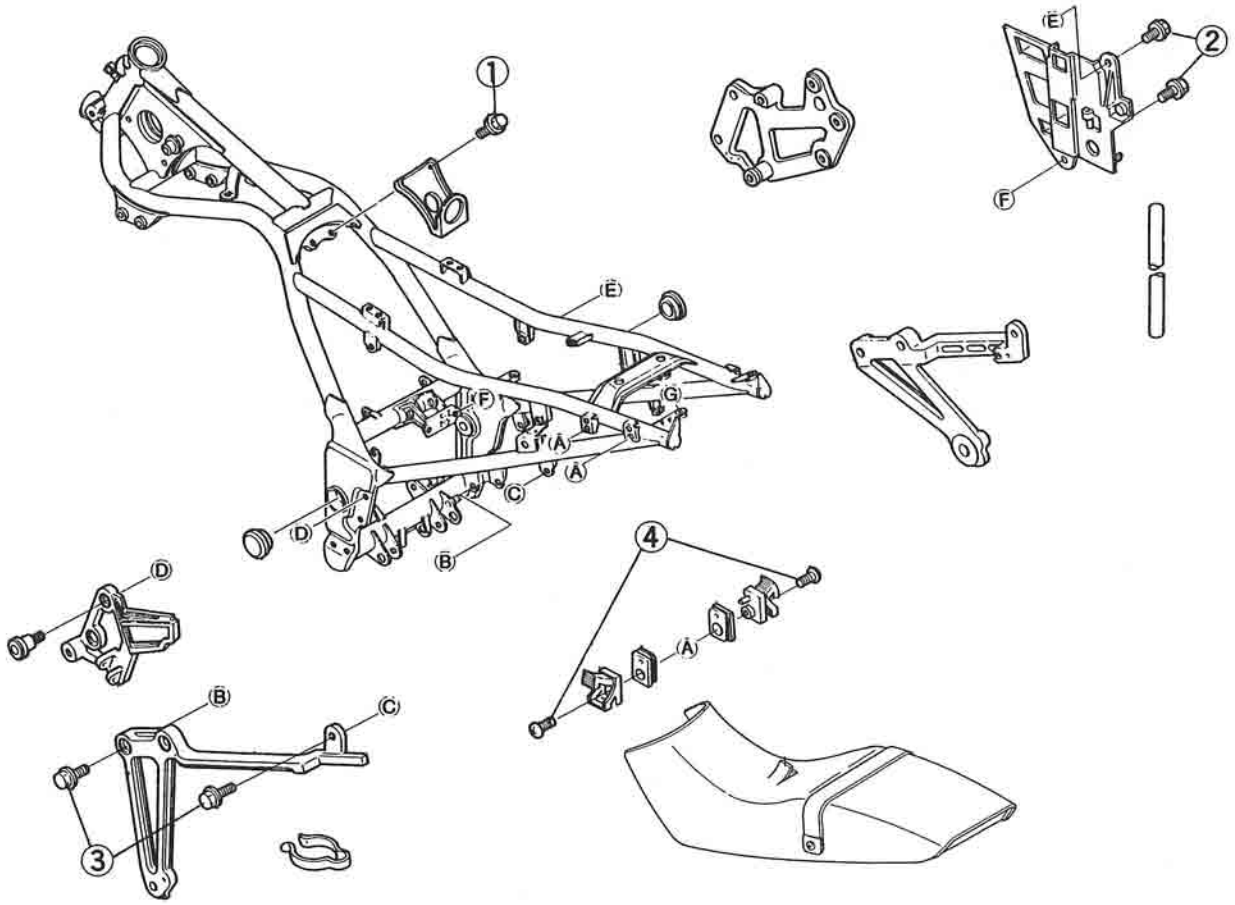
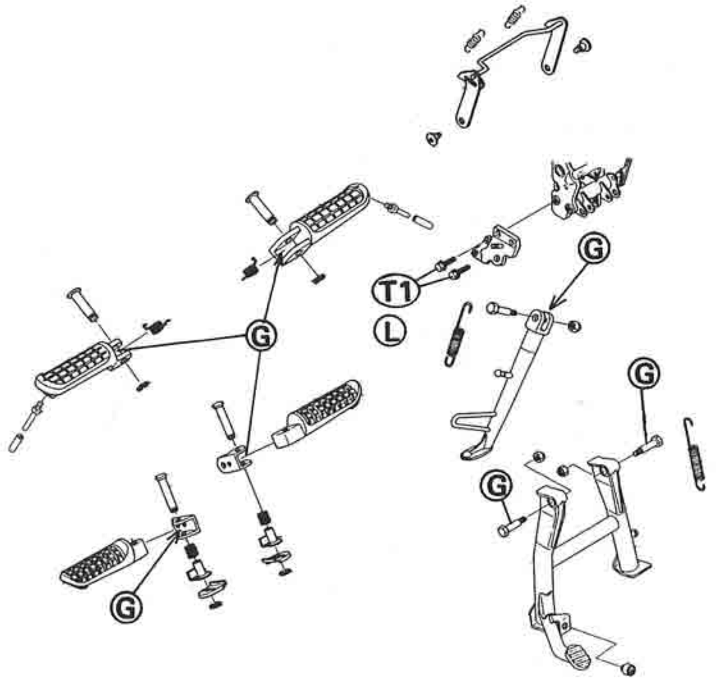
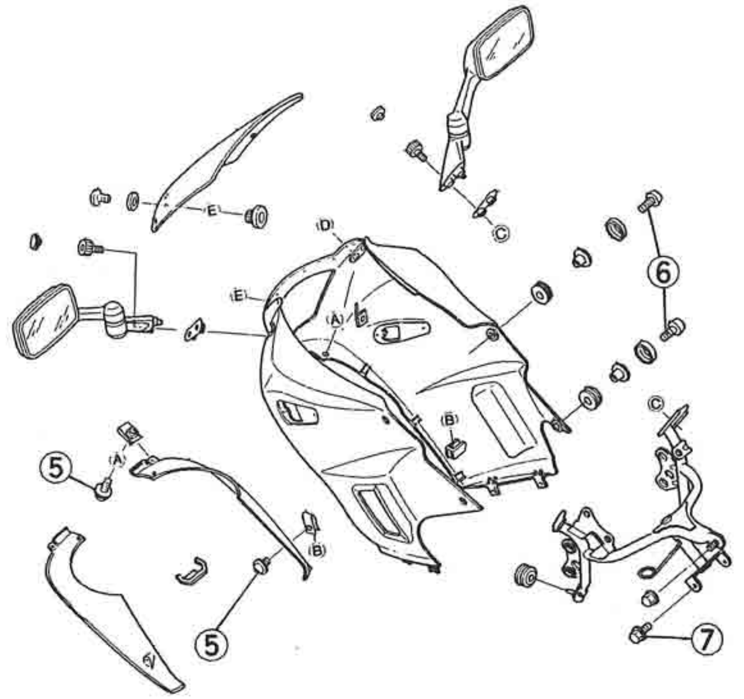
Exploded View



G : Apply grease.
L : Apply non-permanent locking agent.
T1: 44 N-m (4.5 kg-m, 33 ft-lb)

1. Bolts, 6 x 10
2. Bolts, 6 x 14
3. Bolts, 8 x 20
4. Screws, 6 x 25
5. Screws, 6 x 18
6. Allen Bolts, 6 x 18
7. Bolts, 6 x 10
8. Bolts, 8 x 20
9. Bolts, 6 x 25
10. Bolts, 6 x 25
11. Bolts, 6 x 25
12. Bolts, 8 x 16
13. Screws, 5 x 16
14. Screws, 6 x 20
15. Bolts, 10 x 25
16. Bolts, 6 x 14
17. Bolts, 6 x 16
18. Bolts, 6 x 14
19. Bolts, 6 x 20
20. Screws, 6 x 28




(E)
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5
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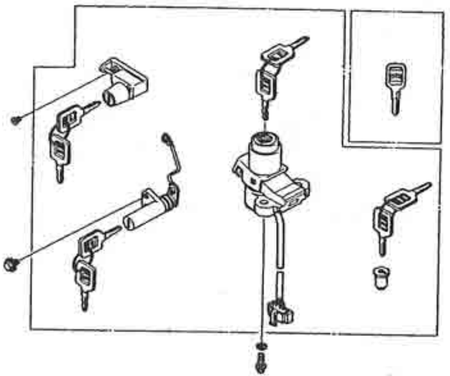
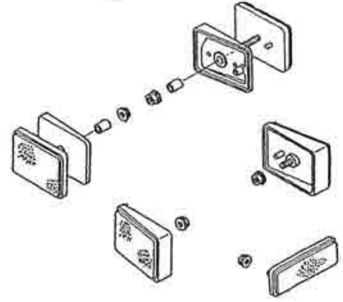
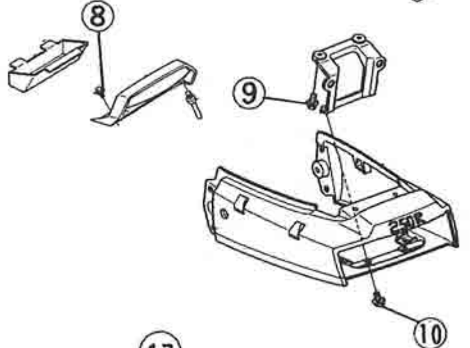
5
C
7



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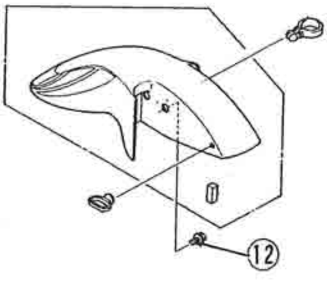
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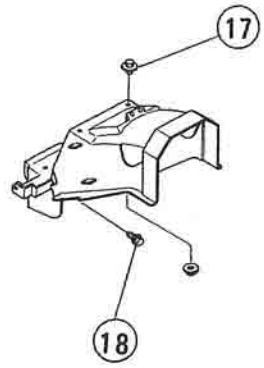
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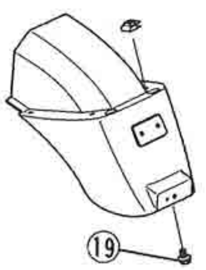
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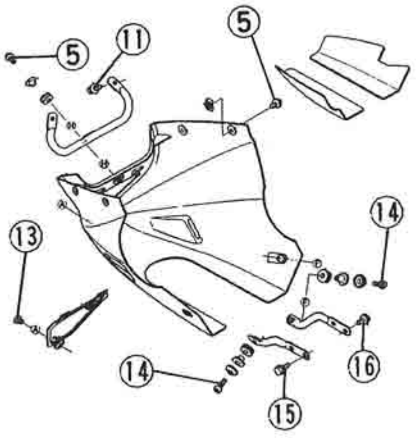

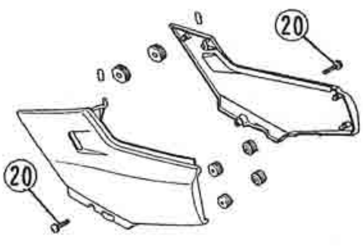
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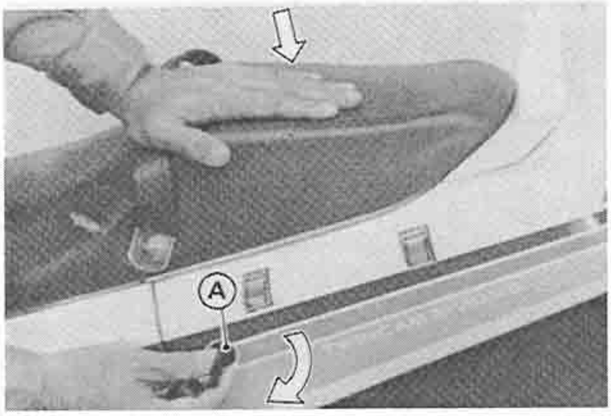
Seat

Seat Removal

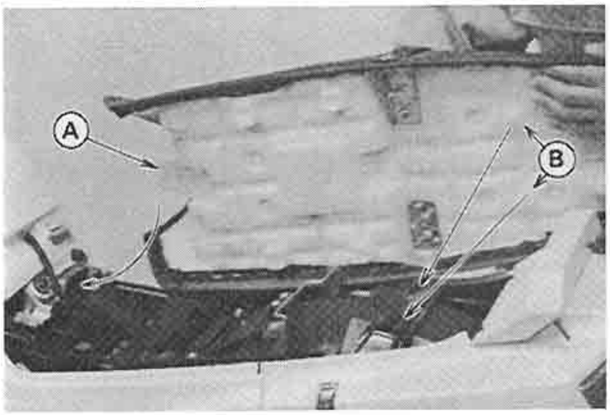
- Insert the ignition switch key into the seat lock.
- Push down the rear part of the seat and turn the ignition switch key clockwise.
- Swing open the seat and remove it.



A. Seat Lock

Seat Installation

- Slip the hook of the seat under the brace on the fuel tank, and put the stoppers of the seat into the holes in the frame.



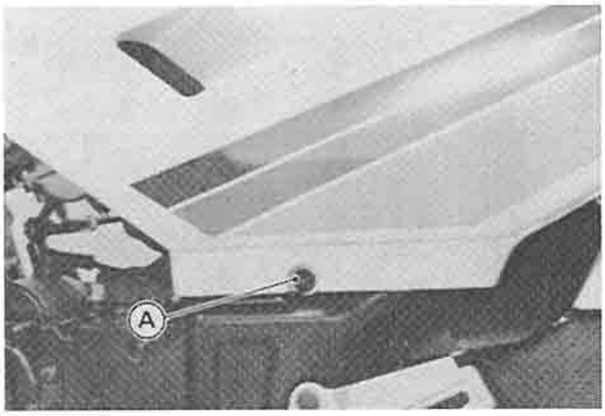
A. Hook B. Stoppers

- Push down the rear part of the seat until the lock clicks.

Side Covers

Side Cover Removal

- Remove the seat.
- Remove the screw.



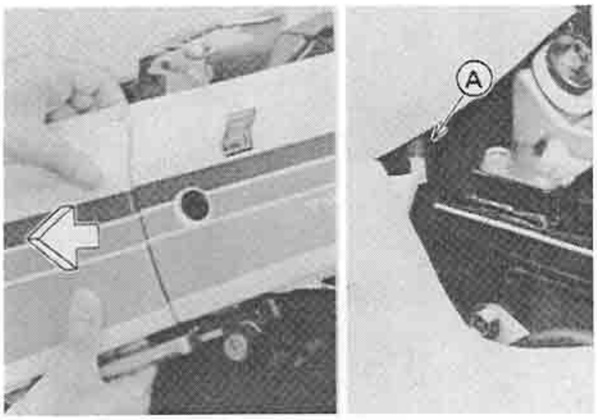
A. Screw

- Pull the rear part and front part of the side cover evenly outward to clear the stoppers.

CAUTION

○**Do not bend open the side cover too far. This could damage the stopper.**

- Push down the rubber damper to clear the fuel tank.
- Remove the side cover.

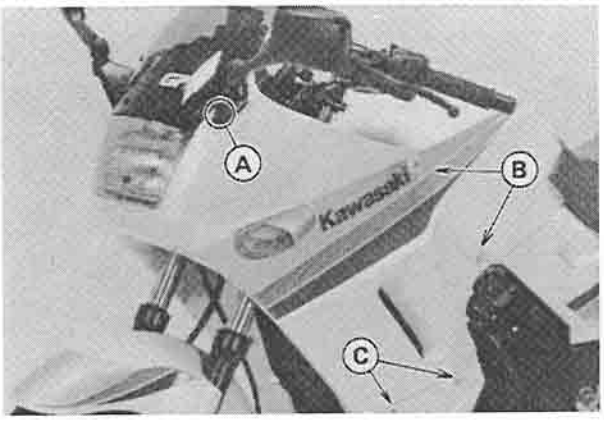


A. Rubber Damper

Fairings

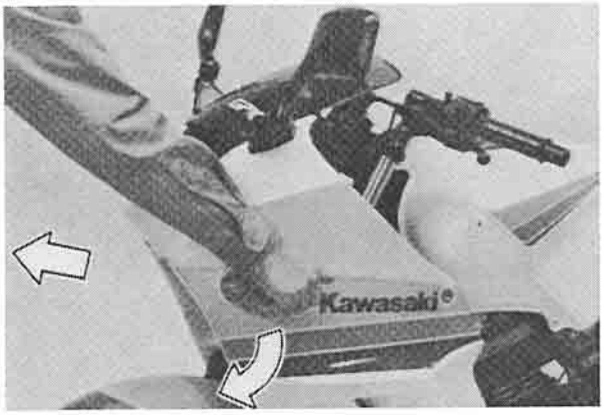
Upper Fairing Removal

- Remove the following bolts and screws.



A. Rear View Mirror Mounting Bolts
B. Allen Bolts
C. Screws

- Pull off the turn signal light connectors.
- Move the upper fairing forward while bending the fairing outward, and remove it.

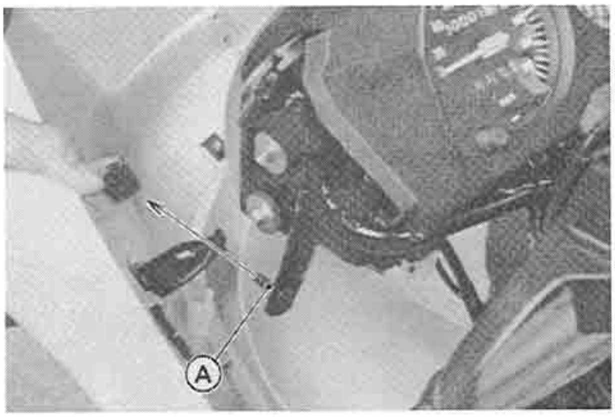


CAUTION

○**Be careful not to scratch the painted surface during removal or installation.**

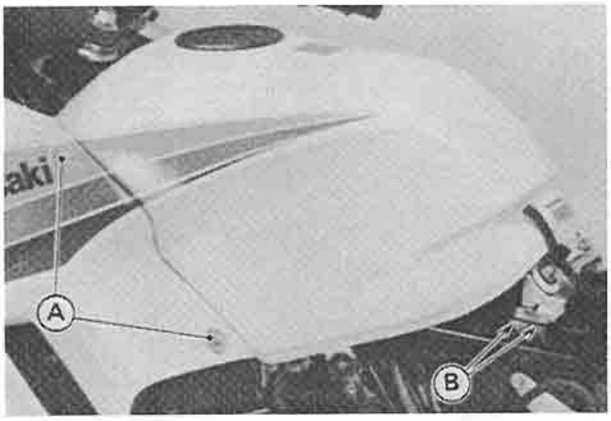
Upper Fairing Installation Notes

- Fit each fairing stopper into the hole in the fairing stay.



A. Fairing Stopper

- If the upper fairing bolts are difficult to install on the fuel tank because of misalignment, loosen the tank bracket bolts and adjust the tank position.

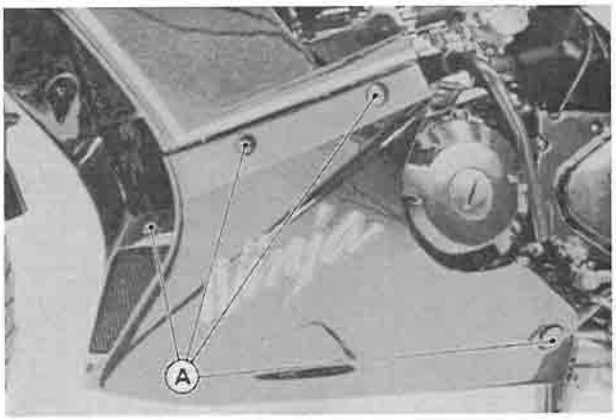


A. Upper Fairing Bolts B. Tank Bracket Bolts

- Install the mounting screws, bolts, nuts flanged collars, and washers in the original positions (see Exploded View).

Lower Fairing Removal

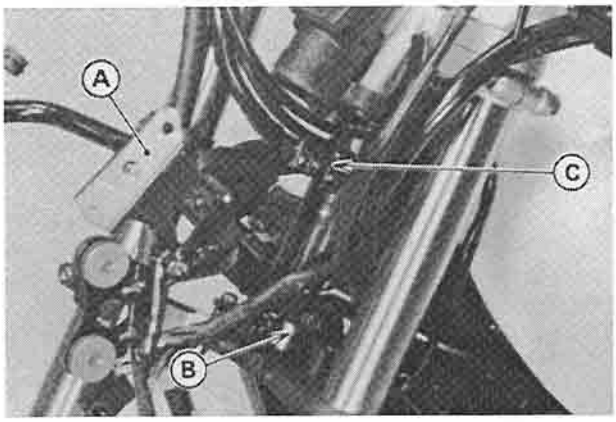
- Remove the following screws to remove the lower fairing.



A. Screws

Upper Fairing Stay Removal

- Remove the following parts.
  - Upper Fairing
  - Headlight Unit
  - Meter Unit
- Take off the stay bolt and nut, then remove the fairing stay.

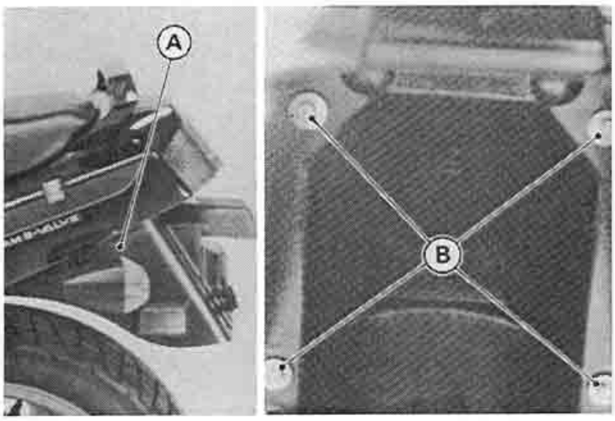


A. Fairing Stay
B. Stay Bolt
C. Stay Nut

Fenders

Rear Part of Rear Fender Removal

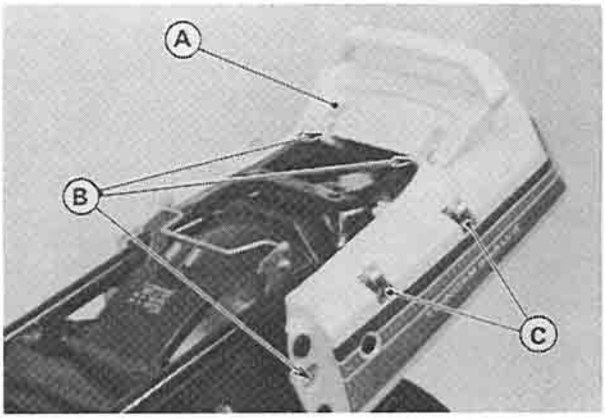
- Take off the mounting bolts to remove the rear fender.



A. Rear Fender
B. Mounting Bolts

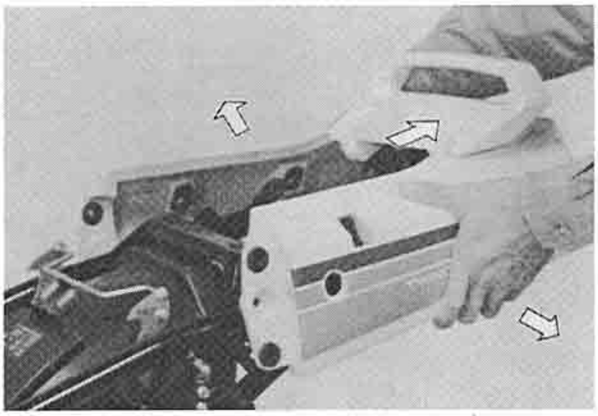
Seat Cover Removal

- Remove the following parts.
  - Rear Part of Rear Fender
  - Seat
  - Side Covers
  - Taillight Connectors
- Remove the seat cover mounting bolts and screws.



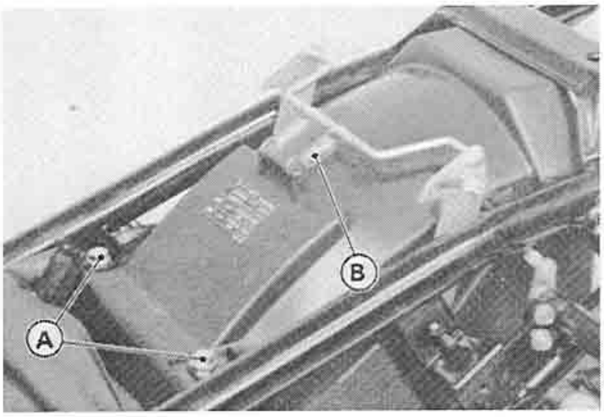
A. Seat Cover
B. Mounting Bolts
C. Mounting Screws

- Move the seat cover rearward while bending the cover outward, and remove it.

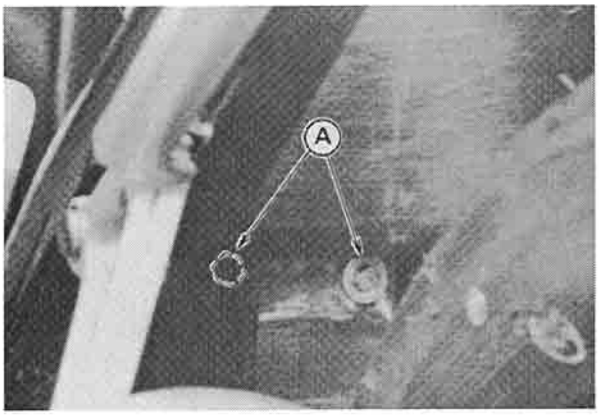


Front Part of Rear Fender Removal

- Remove the following parts.
  - Rear Part of Rear Fender
  - Seat Cover
  - Regulator/Rectifier Unit (on the right side)
  - IC Igniter (see Electrical System chapter)
  - Coolant Reservoir Tank
  - Air Cleaner Housing Rubber Band
  - Battery and Fender Mounting Bolts (bottom of the battery)
  - Seat Lock Lever Springs
- Remove the two upper and two lower mounting bolts.



A. Upper Mounting Bolts B. Lock Lever Springs



A. Lower Mounting Bolts

- Move the front part of the rear fender backward and remove it.

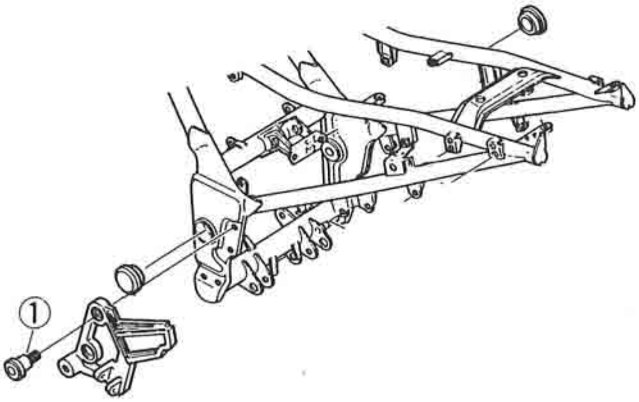
Front Part of Rear Fender Installation

- Install the mounting bolts and washers in the original position (see Exploded View).

Footpeg Bracket

Left Footpeg Bracket Removal

- Remove the external shift mechanism (see External Shift Mechanism Removal in the Crankshaft/Transmission chapter in this manual).
- Remove the footpeg bracket Allen bolts and take off the footpeg bracket.



1. Footpeg Bracket Allen Bolts

Left Footpeg Bracket Installation Note

Refer to External Shift Mechanism Installation Notes in the Crankshaft/Transmission chapter in this manual.

Right Footpeg Bracket Removal

Refer to the Base Manual noting the following.

○It is not necessary to remove the muffler mounting bolt.

Electrical System

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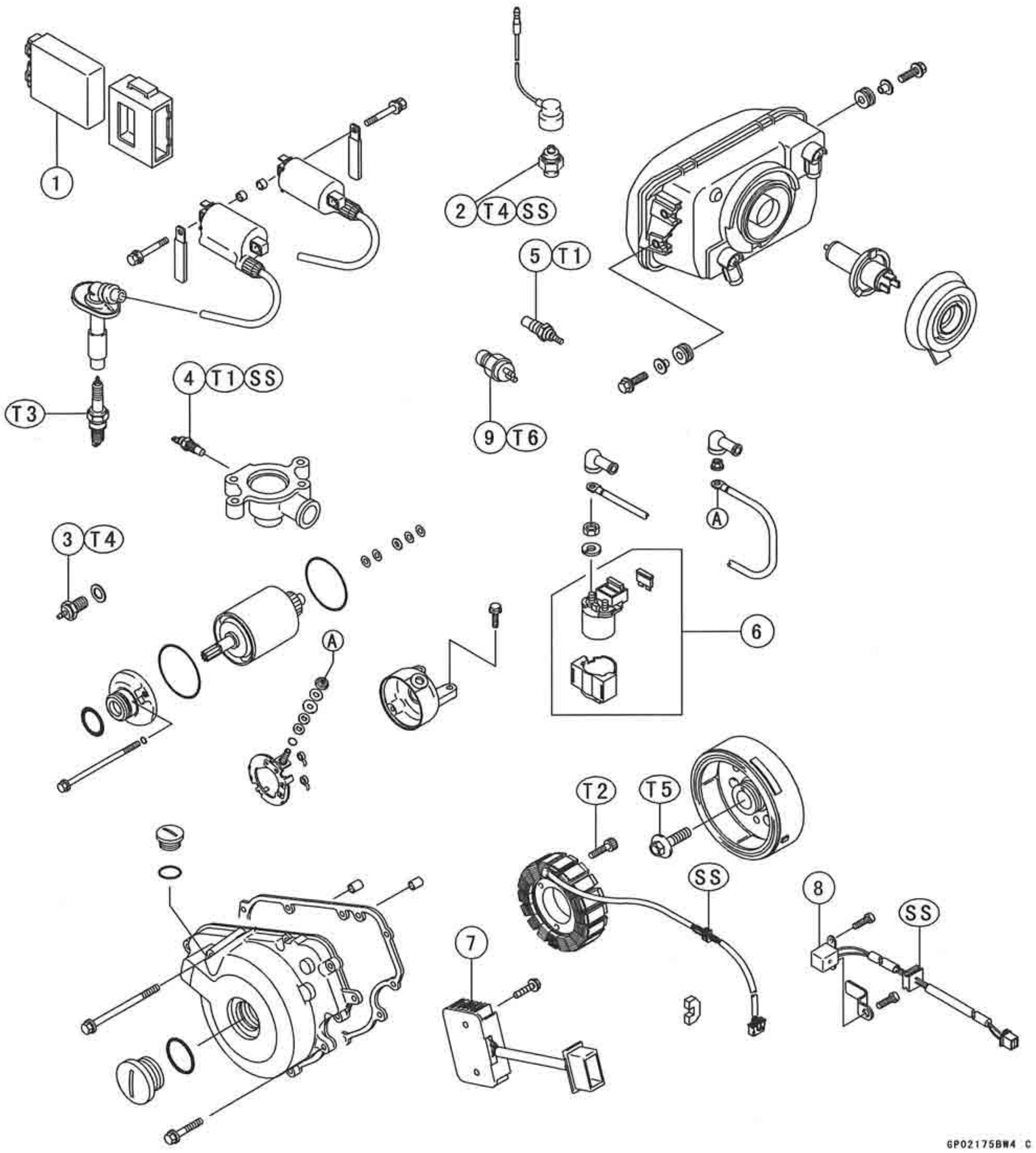
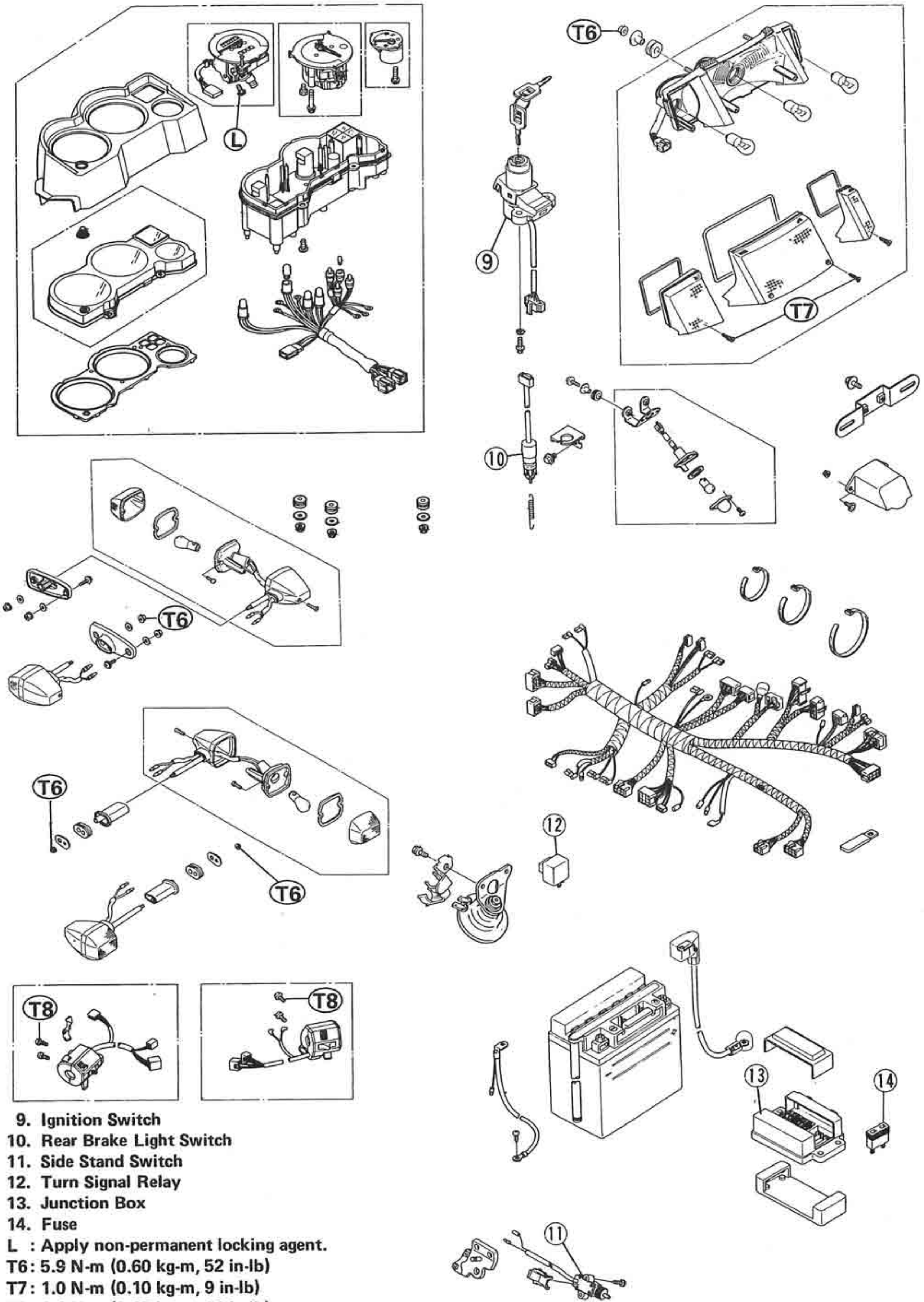
* : Base Manual

Exploded View



1. IC Igniter
2. Oil Pressure Switch
3. Neutral Switch
4. Water Temperature Sensor
5. Fan Switch (EX250-F2 ~ F4)
6. Starter Relay
7. Regulator/Rectifier
8. Pickup Coil
9. Fan Switch (EX250-F6 ~)

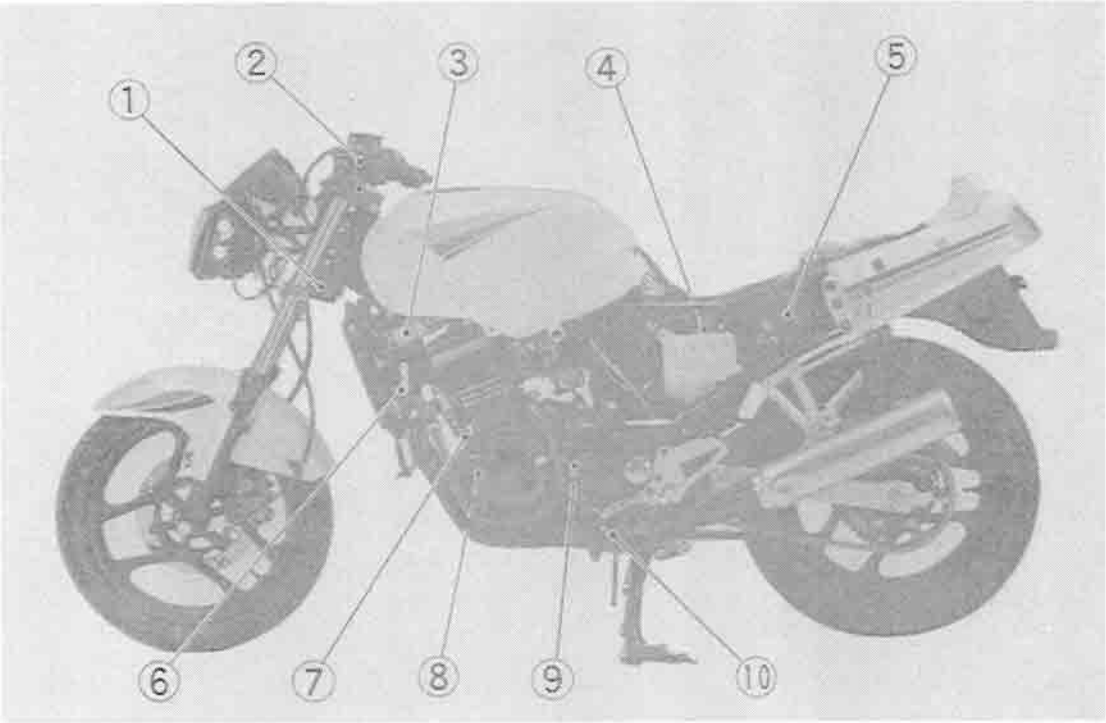
SS: Apply silicone sealant to the threads.
T1: 7.8 N·m (0.80 kg·m, 69 in·lb)
T2: 12 N·m (1.2 kg·m, 104 in·lb)
T3: 13 N·m (1.3 kg·m, 113 in·lb)
T4: 15 N·m (1.5 kg·m, 11.0 ft·lb)
T5: 69 N·m (7.0 kg·m, 51 ft·lb)



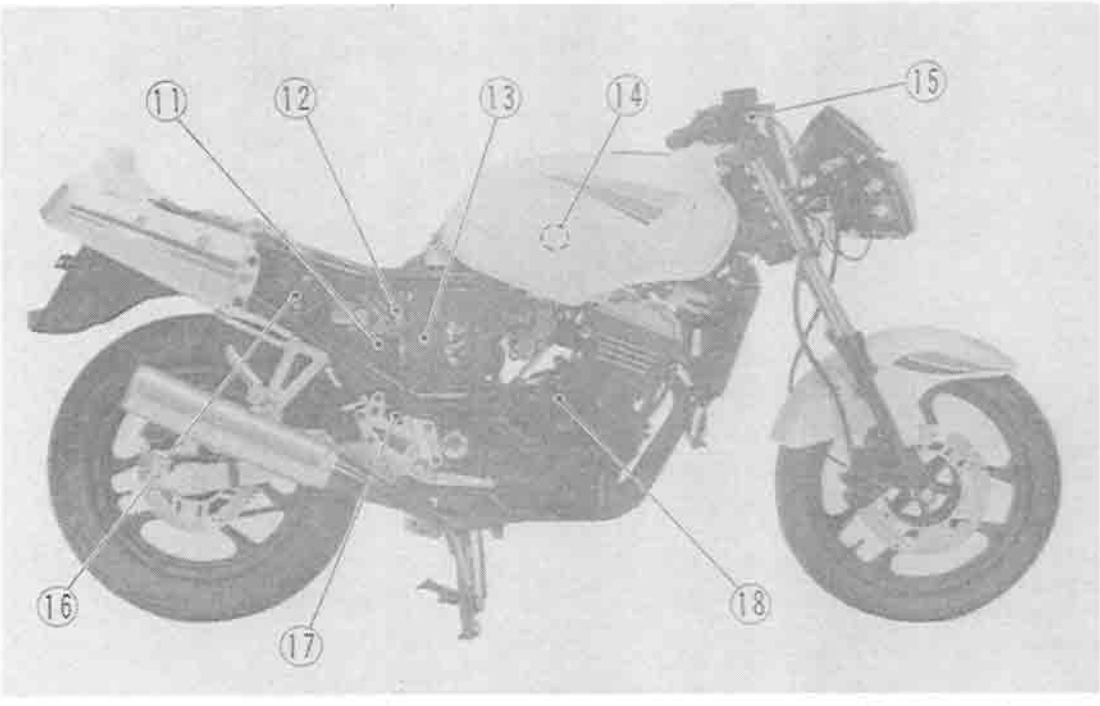
9. **Ignition Switch**
10. **Rear Brake Light Switch**
11. **Side Stand Switch**
12. **Turn Signal Relay**
13. **Junction Box**
14. **Fuse**

L : Apply non-permanent locking agent.
T6: 5.9 N-m (0.60 kg-m, 52 in-lb)
T7: 1.0 N-m (0.10 kg-m, 9 in-lb)
T8: 3.4 N-m (0.35 kg-m, 30 in-lb)

Parts Locations



1. Horn
2. Starter Lockout Switch
3. Ignition Coils
4. Battery
5. IC Igniter
6. Fan Switch
7. Oil Pressure Switch
8. Pickup Coil
9. Neutral Switch
10. Side Stand Switch



11. Starter Relay
12. Turn Signal Relay
13. Junction Box
14. Water Temperature Sensor
15. Front Brake Light Switch
16. Regulator/Rectifier
17. Rear Brake Light Switch
18. Starter Motor

Specifications

Refer to the Base Manual noting the following.

Ignition System

Spark plug cap resistance: 3.75 – 6.25 kΩ

Ignition coil resistance

Primary winding: 2.2 – 3.5 Ω

Secondary winding: 10 – 16 kΩ (with plug cap removed)

Ignition timing: 10° BTDC @1300 r/min (rpm) – 42° BTDC @4500 r/min (rpm),
(Ca) 5° BTDC @1300 r/min (rpm) – 42° BTDC @4500 r/min (rpm)

Pickup coil resistance: 100 – 150 Ω

IC Igniter Internal Resistance: in the text.

Switch and Sensors

Water temperature sensor resistance
80°C (176°F) : 42 – 62 Ω
100°C (212°F) : 22 – 33 Ω

Fan Switch

Frame No. 000001 ~ 004010 and
Frame No. 004601 ~ 005001

Fan Switch (97°C) Connections

○Rising temperature: From OFF to ON at 94 ~ 100°C (201 ~ 212° F)
○Falling temperature: From On to OFF above 90°C (194°F)
ON: Less than 0.5Ω
OFF: More than 1 MΩ

Frame No. 04011 ~ 004600 and
Frame No. 005002 ~

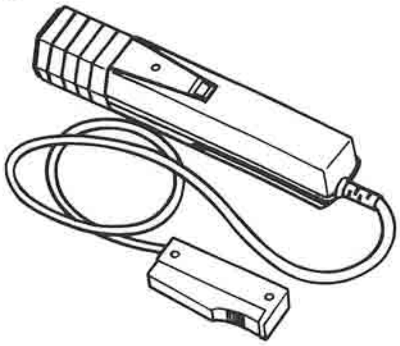
Fan Switch (98°C) Connections

○Rising temperature: From OFF to ON at 96 ~ 100°C (205 ~ 212°F)
○Falling temperature: From ON to OFF above 91°C (196°F)
ON: Less than 0.5Ω
OFF: More than 1 MΩ

Special Tools

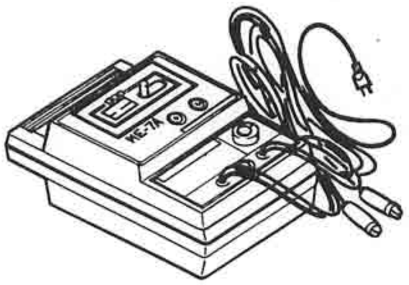
Refer to the Base Manual noting the following additional tools.

Timing Light: 57001-1241

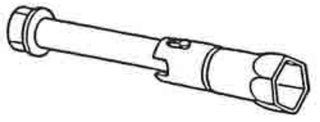


Coil Tester: 57001-1242

○Use the coil tester instead of Kawasaki electrotester (PN: 57001-980).

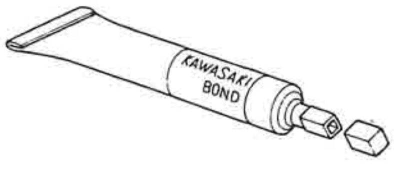


Spark Plug Wrench (Owner's tool): 92110-1132



Sealant

Kawasaki Bond (Silicone Sealant): 56019-120



Battery

Battery Charging:

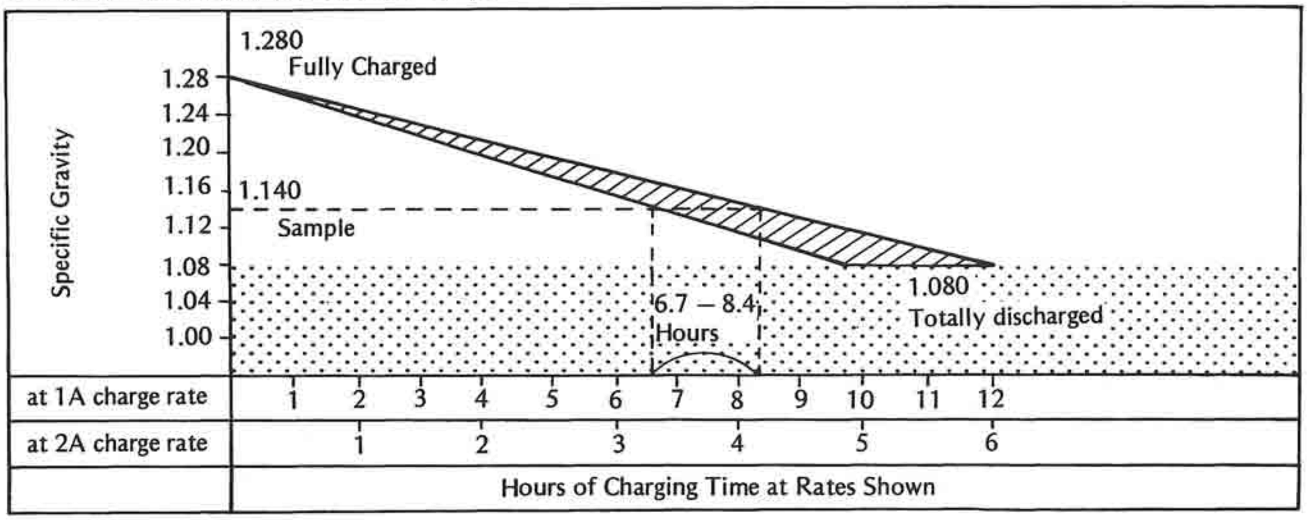
Battery Condition

★If the specific gravity is below 1.200 (charge 60%), the battery needs to be charged.

Battery Ordinary Charging

- Use the following table when charging the battery.

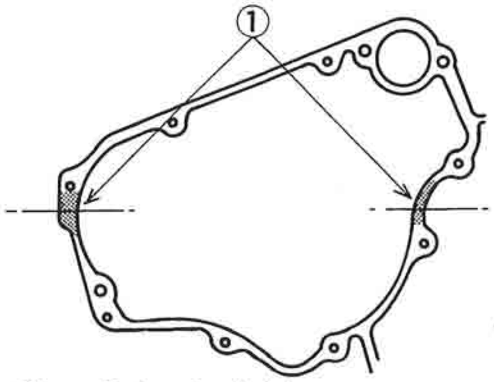
Battery Charging Rate/Time Table (12V 8Ah)



Charging System

Alternator Cover Installation Note

- Apply **silicone sealant** to the crankcase halves mating surface on the front and rear side of the cover mount.



1. Silicone Sealant Applied Areas

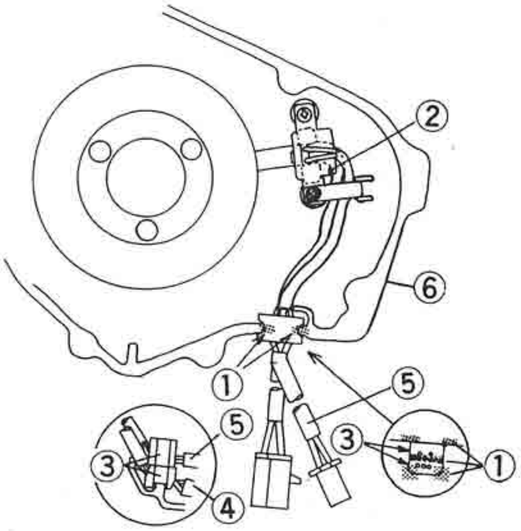
Stator Coil Installation Notes

- Fit the lead grommets into the notch in the alternator cover. Note the following.

○Clamp the alternator leads and pickup coil leads as shown.

○Apply **silicone sealant** to the grommets, and fit the grommets as shown.

- Install the pickup coil (see Pickup Coil Installation).
- Tighten the stator Allen bolts to the specified torque (see Exploded View).

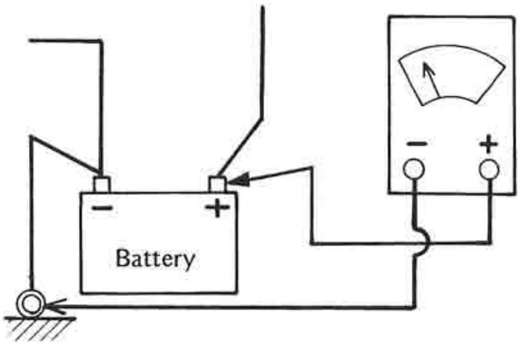


1. Silicon Sealant Applied Area
2. Pickup Coil
3. Grommets
4. Alternator Lead
5. Pickup Coil lead
6. Alternator Cover

Regulator/Rectifier Output Voltage Measurement

- Remove the seat.
- Warm up the engine to obtain actual alternator operating conditions.
- Stop the engine and connect the hand tester (special tool: 57001-983) to the battery leads as shown.

Regulator/Rectifier Output Voltage



- Start the engine, and note the voltage readings at various engine speeds with the headlight turned on and then turned off (To turn off the headlight of US and Canada models, disconnect the headlight connector).

★The readings should show nearly battery voltage when the engine speed is low, and as the engine speed rises, the readings should also rise. But they must stay within the specified range.

★If the output voltage is much higher than the specification, the regulator/rectifier is defective.

★If the output voltage does not rise as the engine speed increases, then the regulator/rectifier is defective or the alternator output is insufficient for the loads. Check the alternator and regulator/rectifier to determine which part is defective.

Regulator/Rectifier Output Voltage

Meter range: 25 V DC

Connection: Battery lead (connected)

Meter (+) — Battery + terminal

Meter (−) — BK/Y lead

Reading: Battery voltage to 14.0 to 15.0 V

Ignition System

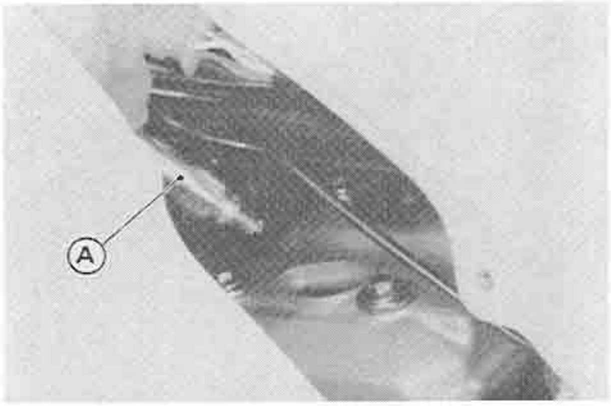
Pickup Coil Installation Notes

- Install the lead clamp between the libs on the alternator cover as shown.

○Apply **silicone sealant** to the grommets, and fit the grommets as shown in the figure (see Starter Coil Installation in this chapter).

Spark Plug Removal

- Remove the right side cover (see Side Cover Removal in the Frame chapter).
- Pull off the spark plug cap.
- Remove the spark plugs using the spark plug wrench (owner's tool).

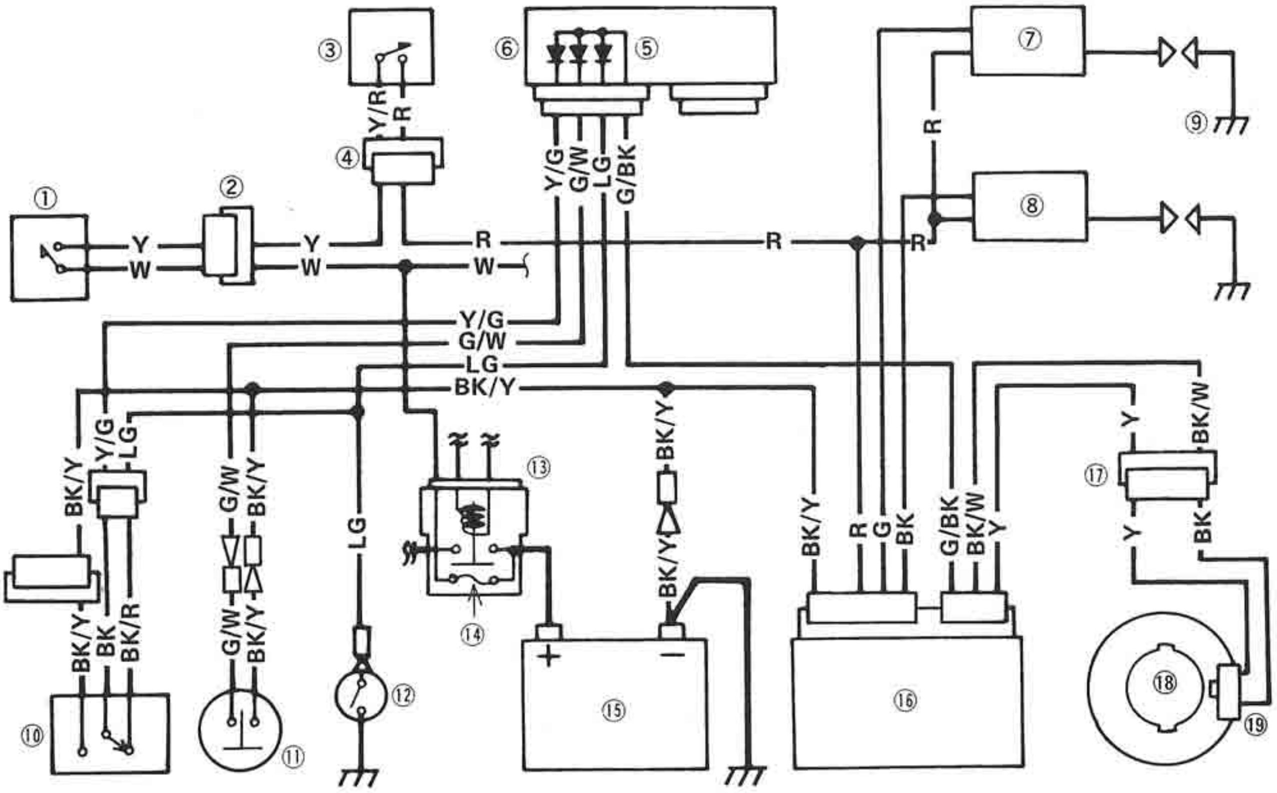


A. Spark Plug Wrench: 92110-1132

Spark Plug Installation Notes

- Insert the spark plug vertically into the plug hole with the plug installed in the plug wrench.
- Tighten the plug finger tight and to the specified torque (see Exploded View).
- Fit the plug caps securely.

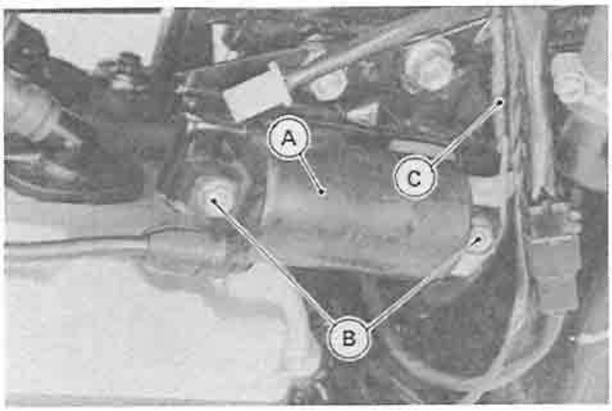
Ignition System Wiring Diagram



1. Ignition Switch
2. 6-pin Connector
3. Engine Stop Switch
4. 6-pin Connector
5. Diodes
6. Junction Box
7. Ignition Coil #2 Cylinder
8. Ignition Coil #1 Cylinder
9. Spark Plugs
10. Starter Lockout Switch
11. Side Stand Switch
12. Neutral Switch
13. Starter Relay
14. Main Fuse 30A
15. Battery
16. IC Igniter
17. 2-pin Connector
18. Alternator Rotor
19. Pickup Coil #1, #2 Cylinder

Ignition Coil Removal

- Remove the upper fairing (see Frame chapter).
- Pull out the plug caps from the spark plugs.
- Disconnect the ignition coil primary lead connectors.



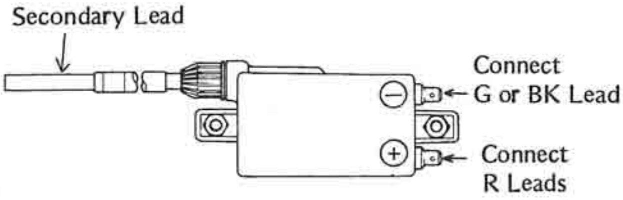
A. Ignition Coil
B. Mounting Bolts
C. Primary Lead

- Remove the ignition coil mounting nuts and take off the coils.

Ignition Coil Installation Notes

- Connect the primary leads to the primary coil terminals as follows:
  Black and red leads → No. 1 ignition coil
  Green and red leads → No. 2 ignition coil
- The ⊕ and ⊖ markings next to the primary coil terminals on the ignition coil body indicate the polarity of the terminals. The polarity of the two spark plug leads are shown when the primary leads are connected as indicated in the figure.

Polarity of Ignition Coil



Pickup Coil Inspection

- Disconnect the pickup coil connector.
- Zero the hand tester (special tool: 57001-983), and connect it to pickup coil leads.

★If there is more resistance than the specified value, the coil has an open lead and must be replaced. Much less than this resistance means the coil is shorted, and must be replaced.

Pickup Coil Resistance

100 – 150 Ω

- Using the highest resistance range of the hand tester, measure the resistance between the pickup coil leads and chassis ground.

★Any meter reading less than infinity (∞) indicates a short, necessitating replacement of the pickup coil assembly.

Ignition Coil Inspection

Refer to the Base Manual noting the following.

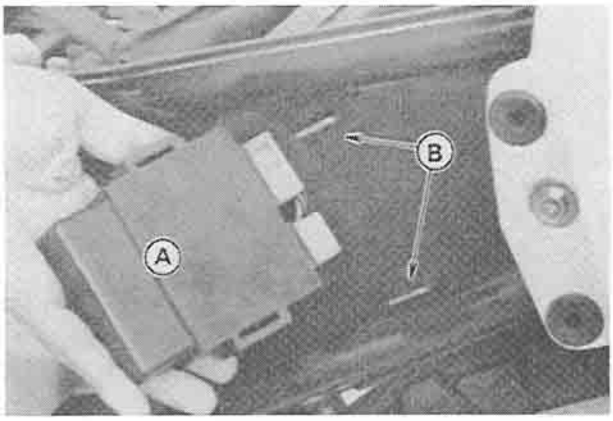
- Use the coil tester (special tool: 57001-1242) instead of Kawasaki electrotester for ignition coil inspection.

IC Igniter Removal

- Remove the left side cover (see Frame chapter in this text).
- Pull the igniter outward evenly as far as it will go.
- Pull the igniter upper side out of the rear fender tongue just enough to clear the tongue, then pull the lower side out.

CAUTION

○**Pulling either side of the igniter too far out may break the fender tongue, and the rear fender will need to be replaced.**



A. Igniter B. Rear Fender Tongues

- Pull off the connector and remove the igniter.

IC Igniter Installation Note

○Installation is the reverse of removal. Note the following.

- Put the igniter lower side halfway into the fender tongue, then push on the upper side.

CAUTION

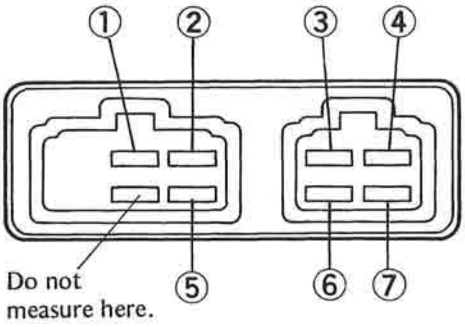
○**Forcing either side of the igniter may break the fender tongue, and the rear fender will need to be replaced.**

IC Igniter Inspection

○Refer to p. 15-21 in the Base Manual noting the following.

●Be sure to set the tester to the **x 1 kΩ** range.

Terminal No. of IC Igniter(EX250-F1 ~ F8)



○Refer to page 15-17 for on and after the EX250-F9 model's IC Igniter internal resistance.

IC Igniter Internal Resistance **unit : kΩ**

Range x 1 kΩ		Tester (+) Lead Connection						
	Terminal	1	2	3	4	5	6	7
Tester (−) Lead Connection	1		6 ~ 30	∞	10~ 50	10~ 45	6 ~ 30	10~ 50
	2	4 ~ 20		∞	1 ~ 8	3 ~ 20	0	1 ~ 8
	3	9 ~ 40	2 ~ 15		6 ~ 30	8 ~ 40	2 ~ 15	6 ~ 30
	4	∞	∞	∞		∞	∞	∞
	5	8 ~ 35	4 ~ 20	∞	7 ~ 35		4 ~ 20	7 ~ 35
	6	4 ~ 20	0	∞	1 ~ 8	3 ~ 20		1 ~ 8
	7	∞	∞	∞	∞	∞	∞	

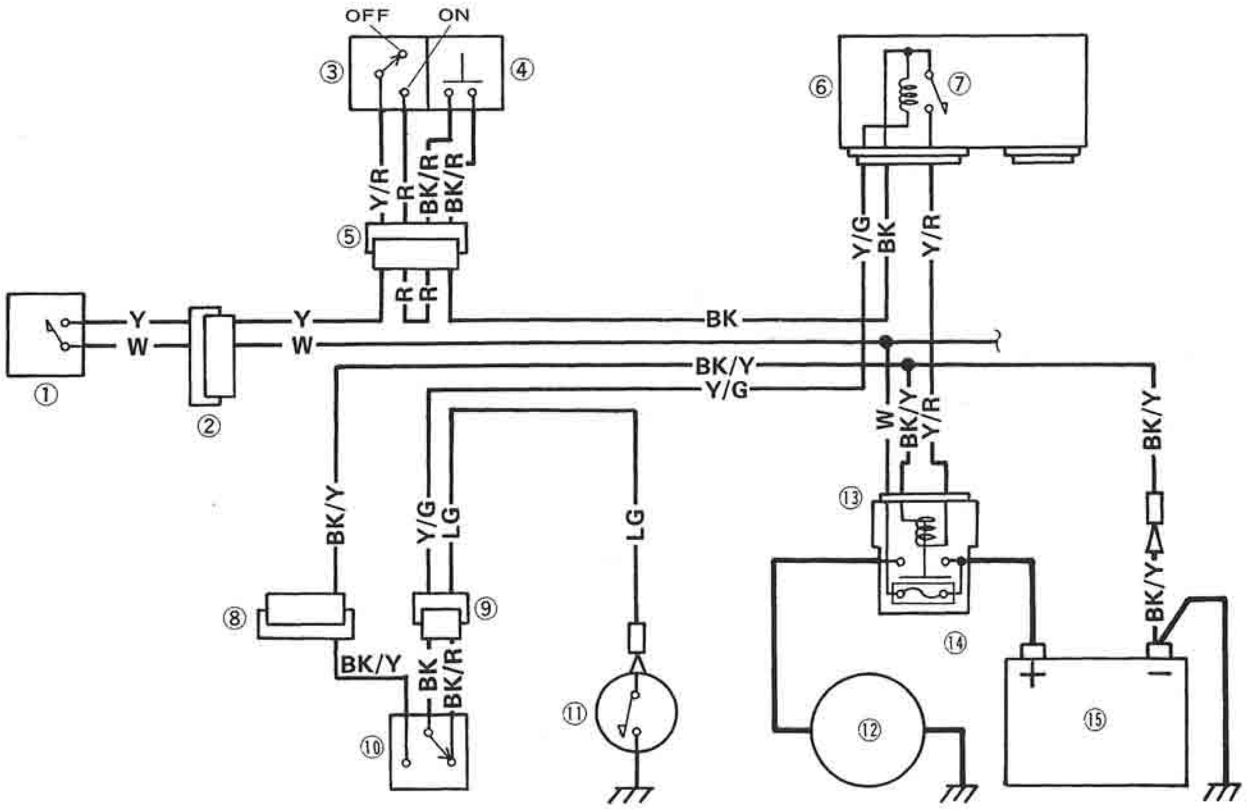
……

Electric Starter System

……

Refer to the Base Manual noting the following.

Electric Starter Circuit



1. Ignition Switch
2. 6-pin Connector
3. Engine Stop Switch
4. Starter Button
5. 4-pin Connector,
   Ⓤ 6-pin Connector
6. Junction Box
7. Starter Circuit Relay
8. 9-pin Connector
9. 2-pin Connector
10. Starter Lockout Switch
11. Neutral Switch
12. Starter Motor
13. Starter Relay
14. Main Fuse 30A
15. Battery

Lighting System

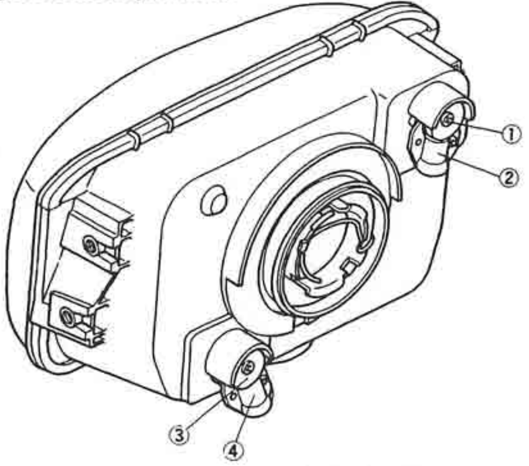
Refer to the Base Manual noting the following.

Headlight Beam Vertical Adjustment

The headlight beam is adjustable vertically. If adjusted too low, neither low nor high beam will illuminate the road far enough ahead. If adjusted too high, the high beam will fail to illuminate the road close ahead, and the low beam will blind oncoming drivers.

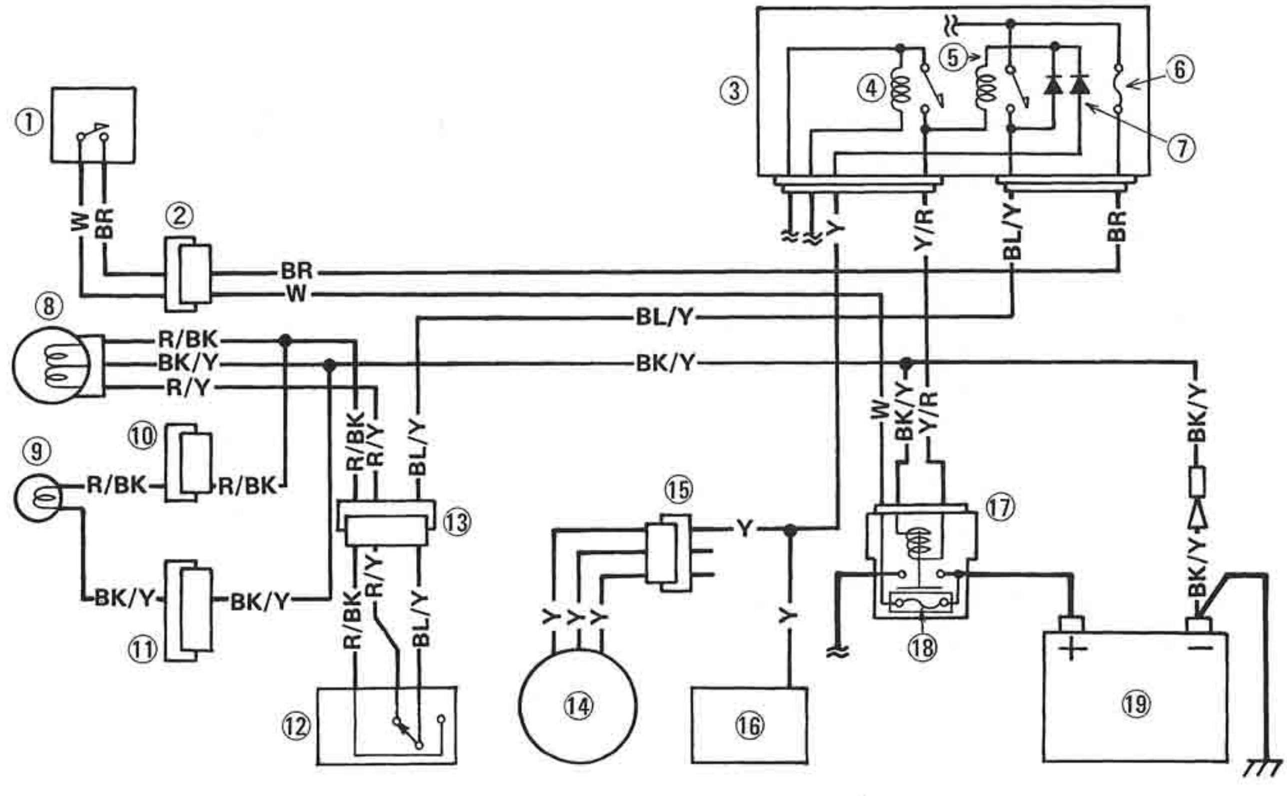
- Put a Phillips screwdriver into the vertical adjuster guide.
- Turn the adjuster on the headlight in or out to adjust the headlight vertically.

Headlight Beam Adjustment



1. Horizontal Adjuster
2. Adjuster Guide
3. Vertical Adjuster
4. Adjuster Guide

Headlight Circuit (US Model)

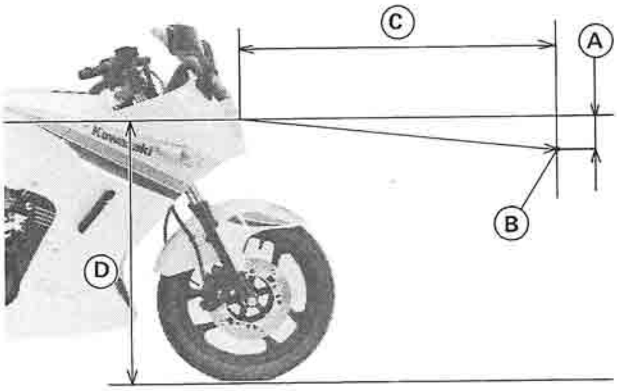


1. Ignition Switch
2. 6-pin Connector
3. Junction Box
4. Starter Circuit Relay
5. Headlight Relay
6. Headlight Fuse 10A
7. Diodes
8. Headlight
9. High Beam Indicator Light
10. 6-pin Connector
11. 6-pin Connector
12. Dimmer Switch
13. 9-pin Connector
14. Alternator
15. 3-pin Connector
16. Regulator/Rectifier
17. Starter Relay
18. Main Fuse 30A
19. Battery

NOTE

○*On high beam, the brightest point should be slightly below horizontal with the motorcycle on its wheels and the rider seated. Adjust the headlight to the proper angle according to local regulations.*

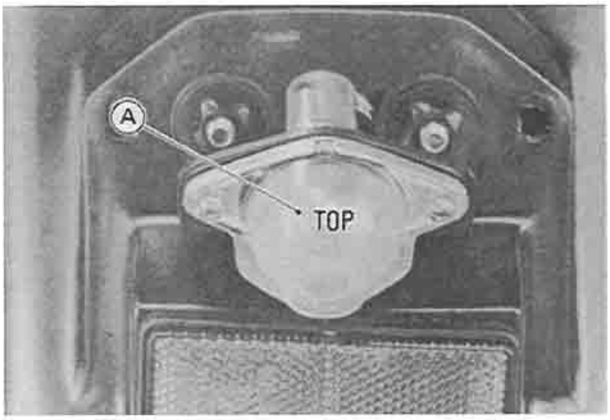
○*For US model, the proper angle is 0.4 degrees below horizontal. This is a 50 mm (2 in) drop at 7.6 m (25 ft) measured from the center of the headlight with the motorcycle on its wheels and the rider seated.*



A. 50 mm (2 in)
B. Center of Brightest Spot
C. 7.6 m (25 ft)
D. Height of Headlight Center

License Plate Light Bulb Replacement Notes

- ●Install the bulb lens so that the "TOP" mark on the lens points up.
- ●Do not overtighten the lens mounting screws.



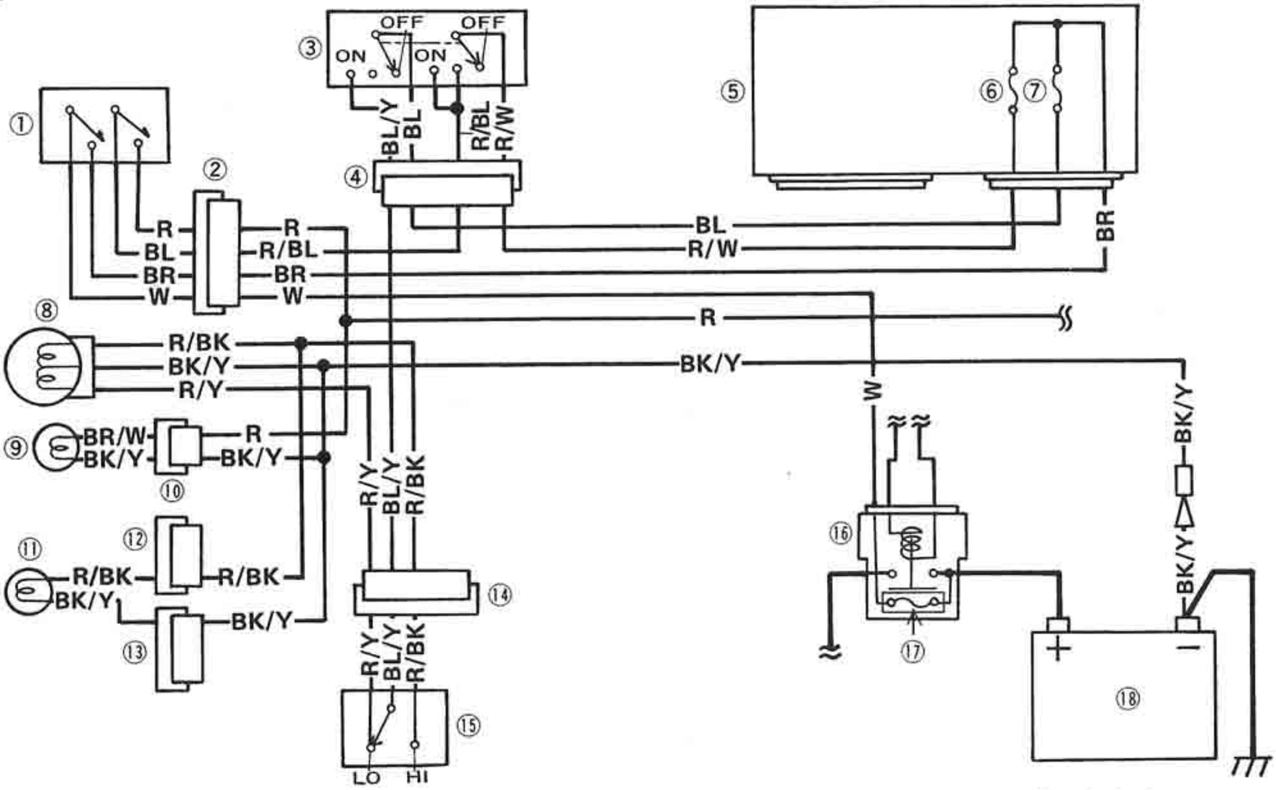
A. "TOP" Mark

Inspection:

Headlight Reserve Lighting System Inspection

○Since the headlight reserve lighting system on the US model is discontinued, omit the inspection.

Headlight Circuit
(Other than US Model)



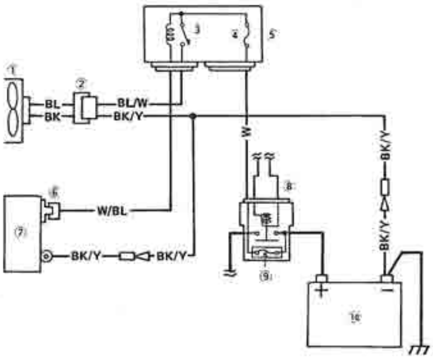
1. Ignition Switch
2. 6-pin Connector
3. Headlight Switch
4. 6-pin Connector
5. Junction Box
6. Taillight Fuse 10A
7. Headlight Fuse 10A
8. Headlight
9. City Light
10. 2-pin Connector
11. High Beam Indicator Light
12. 6-pin Connector
13. 4-pin Connector
14. 9-pin Connector
15. Dimmer Switch
16. Starter Relay
17. Main Fuse 30A
18. Battery

Cooling Fan System

Refer to the Base Manual noting the following.

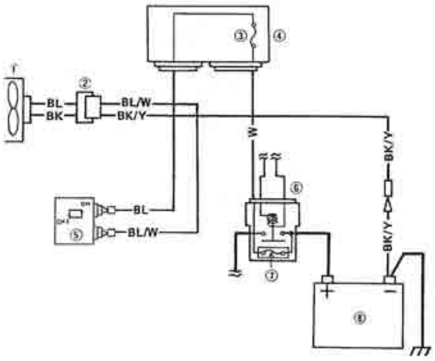
Frame No. 000001 ~ 004010 and
004601 ~ 005001

Cooling Fan Circuit



1. Cooling Fan
2. 2-pin Connector
3. Fan Relay
4. Fan Fuse 10A
5. Junction Box
6. Fan Switch
7. Radiator
8. Starter Relay
9. Main Fuse 30A
10. Battery

Frame No. 004011 ~ 004600 and 005002 ~



1. Cooling Fan
2. 2-pin Connector
3. Fan Fuse 10A
4. Junction Box
5. Cooling Fan Switch
6. Starter Relay
7. Main Fuse 30A
8. Battery

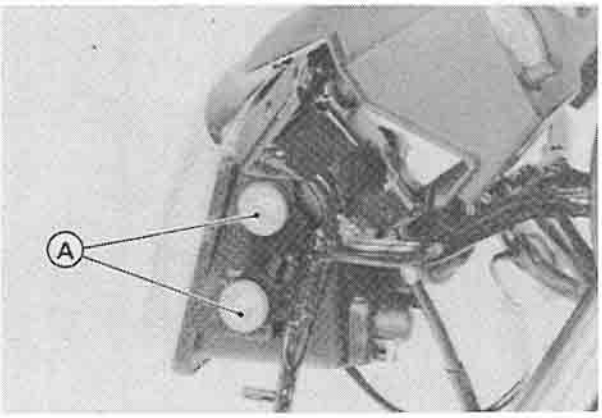
Meters and Gauge

Meters and Gauge Removal

CAUTION

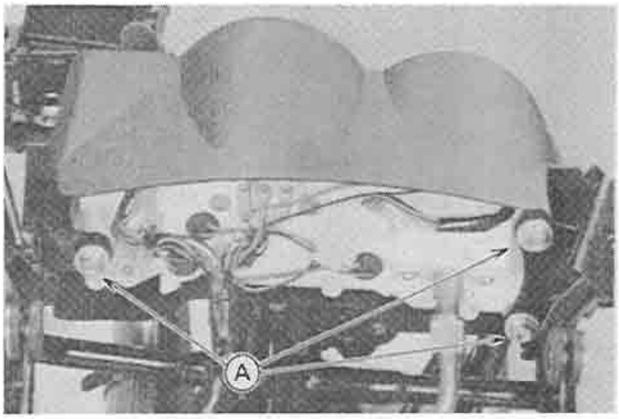
○Place the meter or gauge so that the face is up. If a meter or gauge is left upside down or sideways for any length of time, it will malfunction.

- Remove the following parts.
  Upper Fairing (see Frame chapter in this text)
  Headlight Unit
  Speedometer Cable Upper End



A. Headlight Unit Mounting Bolts

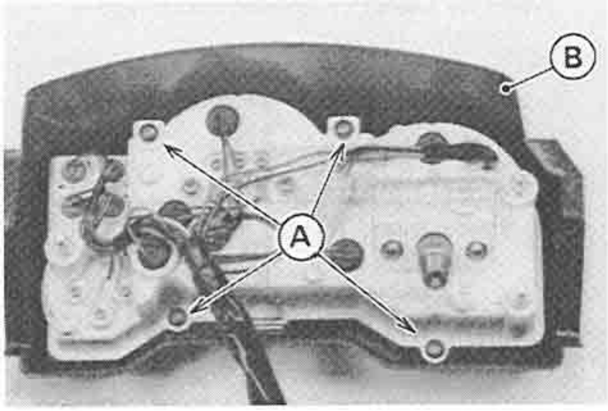
- Remove the meters and gauge by taking off the mounting nuts.



A. Three Mounting Nuts

Meters and Gauge Disassembly

- Remove the cover mounting screws.



A. Four Cover Mounting Screws B. Cover

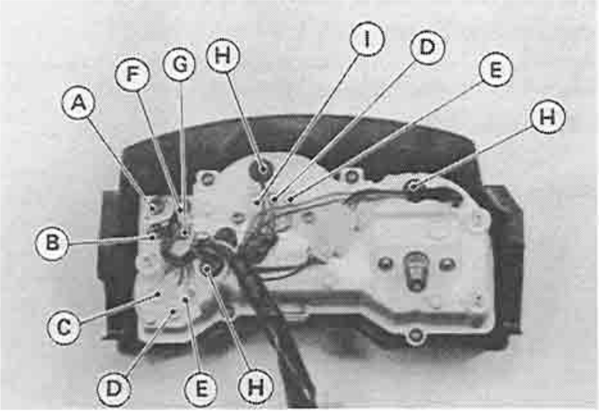
- Remove the transparent cover. The rubber knob cap comes off with the cover.
- Separate each meter or gauge by removing the mounting screws and the terminal screws.

Meter or Gauge Replacement

- Replace the meter or the gauge along with the pointer if necessary.

Meter and Gauge Assembly Note

- Install each lead on the original position shown.



A. R/BK, BK/Y
B. BR, BL/R
C. W/Y
D. BK/Y
E. BR
F. G/GY
G. LG/BR
H. BK/Y, R/BL, 3.4 W Bulbs
I. BK, 3.4 W Bulb

Tachometer Inspection

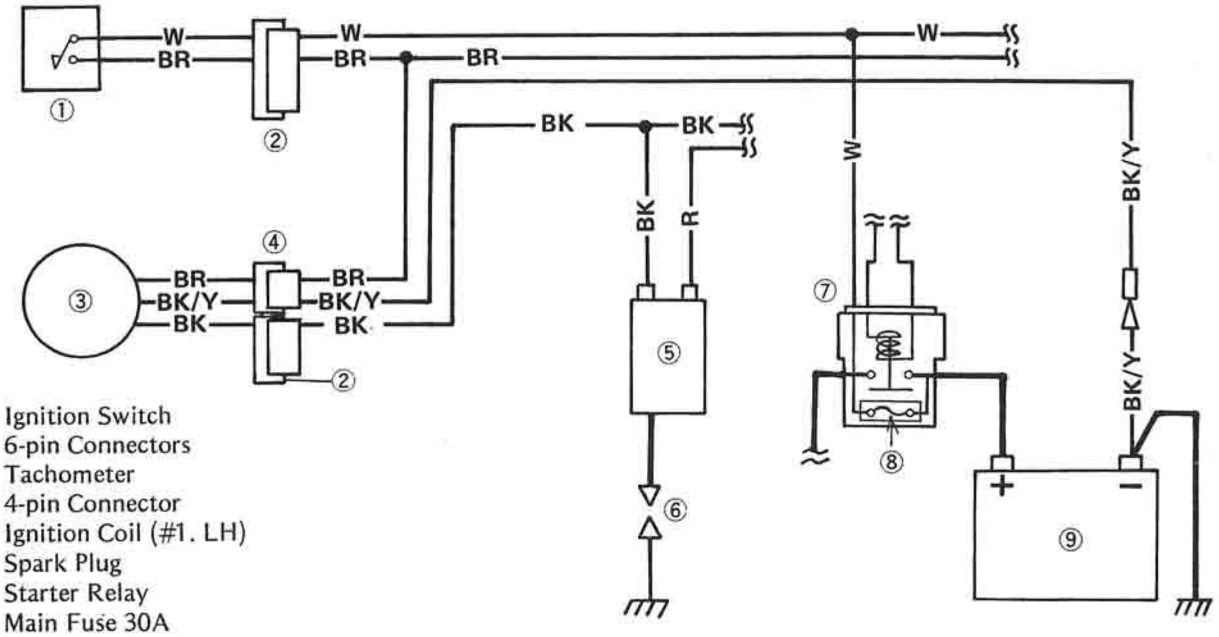
- Check the tachometer circuit wiring (see Tachometer Circuit and Wiring Inspection).

★If all wiring and components other than the tachometer unit check out good, the unit is suspect. Check the unit as shown.

- Turn the ignition switch ON.
- Remove the BK lead of the ignition coil.
- Open or connect the BK lead to the battery positive terminal using an auxiliary lead. Then the pointer should flick.
- Turn the ignition switch OFF.

★If the pointer does not flick, replace the tachometer unit.

Tachometer Circuit



1. Ignition Switch
2. 6-pin Connectors
3. Tachometer
4. 4-pin Connector
5. Ignition Coil (#1. LH)
6. Spark Plug
7. Starter Relay
8. Main Fuse 30A
9. Battery

Switches and Sensors

○Refer to the Base Manual noting the following.

Switch Inspection

●Using the Kawasaki Hand Tester (special tool: 57001-983), check to see that only the connections shown have continuity (about zero ohms).

★If the switch has an open or short, repair it or replace it with a new one.

Starter Lockout Switch Connections

	BK/Y	BK	BK/R
When clutch lever is pulled in	○—	—○	
When clutch lever is released		○—	—○

Starter Button Connections

	BK/R	BK/R
Free		
Push on	○—	—○

Dimmer Switch Connections

	R/BK	BL/Y	R/Y
HI	○—	—○	
LO		○—	—○

Front Brake Light Switch Connections

	BK	BK
When brake lever is pulled in	○—	—○

Side Stand Switch Connections

	G/W	BK/Y
When side stand is up	○—	—○
When side stand is down		

Oil Pressure Switch Connections*

	BL/R	⏚
When engine is stopped	○—	—○
When engine is running		

*: Engine lubrication system is in good condition.

Junction Box

Refer to the Base Manual noting the following.

Fuse Installation Notes

○The main 30A fuse is installed on the top of the starter relay.

Junction Box Fuse Circuit Inspection

Refer to the Base Manual noting the following.

Fuse Circuit Inspection (EX250-F1 ~ F8)

Tester Connection	Tester Reading (Ω)
1 – 2	0
1 – 3 A/B	0
6 – 7	0
6 – 17	0
1 – 7	∞
8 – 17	∞

Fuse Circuit Inspection (On and after EX250-F9)

Tester Connection	Tester Reading (Ω)
1 – 2	0
1 – 3B	0
3A – 4	0
5 – 6	0
6 – 7	0
6 – 10	0
6 – 17	0
1 – 4	∞
1 – 5	∞
3A – 10	∞
8 – 17	∞

Headlight and Starter Circuit Relay Circuit Inspection

- Remove the junction box.
- Check conductivity of the following numbered terminal by connecting the hand tester and one 12 V battery to the junction box as shown.

★If the relay does not work as specified, replace the junction box.

Special Tool –
Hand Tester (V.O.M): 57001-983

Relay Circuit Inspection
(With the battery disconnected)

	Meter Connection	Meter Reading (Ω)
Fan Relay	2 – 5 4 – 5	∞ ∞
Headlight Relay	7 – 8 7 – 13	∞ ∞
Starter Relay	11 – 13 12 – 13	∞ ∞

Relay Circuit Inspection (with the battery connected)

	Meter Connection	Battery Connection + –	Meter Reading (Ω)
Fan	2 – 5	2 – 4	0
Headlight	7 – 8	9 – 13	0
starter	11 – 13	11 – 12	0

Diode Circuit Inspection

- Remove the junction box.
- Check conductivity of the following pair of terminals.

Diode Circuit Inspection

Tester Connection	**11–12, *13–8, *13–9, 12–14, 15–14, 16–14**

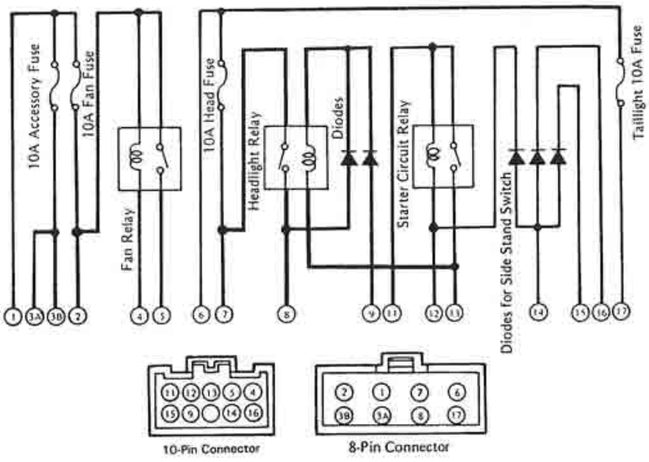
(*): U.S. and Canadian Models only

★The resistance should be low in one direction and more than ten times as much in the other direction. If any diode shows low or high in both directions, the diode is defective and the junction box must be replaced.

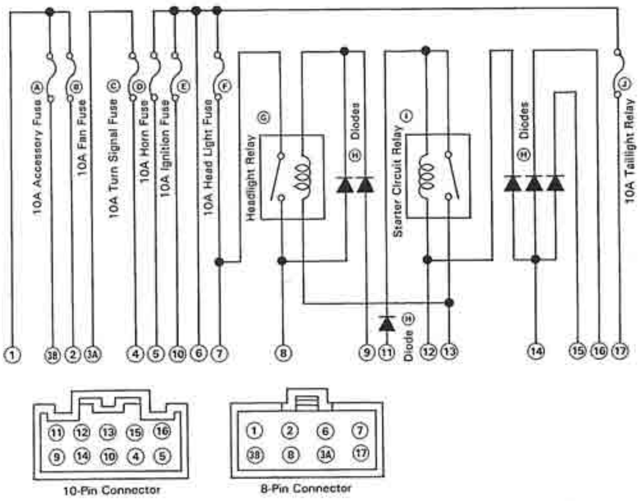
NOTE

○ *The actual meter reading varies with the meter used and the individual diodes, but, generally speaking, the lower reading should be from zero to one half the scale.*

Junction Box Internal Circuit (EX250-F1 ~ F8)



(On and after EX250-F9)



Terminal Application Chart (EX250-F1 ~ F8)

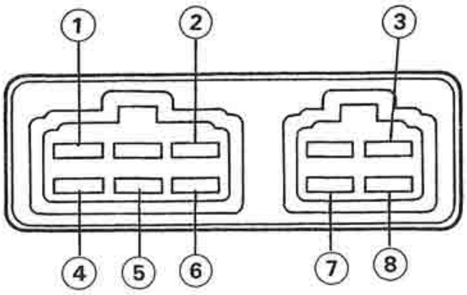
	Model	1	3A	3B	2	4	5	6	7	8	9	11	12	13	14	15	16	17
US, Canada Models	F/No. 000001 to 004010, 004601 to 005001	x	x	x	NA	x	x	x	x	x	x	x	x	x	x	x	x	x
	F/No. 005002 to 044000	x	x	x	NA	NA	NA	x	x	x	NA	NA	x	x	x	x	x	x
General Models	F/No. 004011 to 004600 and 005002 to 044000	x	x	x	x	NA	NA	x	x	x	x	x	x	x	x	x	x	x
EX250-F6 ~ F8 Australia Model		x	NA	NA	x	NA	NA	x	x	x	x	x	x	x	x	x	x	x

NOTE : x : Apply
NA : Not Apply

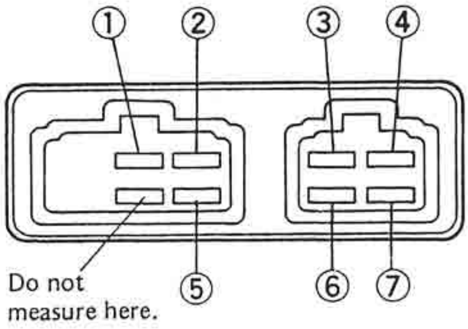
Terminal Application Chart (On and after EX250-F9)

	1	2	3A	3B	4	5	6	7	8	9	10	11	12	13	14	15	16	17
U.S. Canada and Australia Models	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
U.K. Model	x	x	x	x	x	x	x	x	NA	NA	x	x	x	x	x	x	x	x

Terminal No. of IC Igniter (On and after EX250-F9)



○Refer to page 15-10 for the EX250-F1 ~ F8 IC Igniter internal resistance.



IC Igniter Internal Resistance (On and after EX250-F9)

Unit : kΩ

Range x 1 kΩ		Tester (+) Lead Connection							
Terminal		1	2	3	4	5	6	7	8
Tester (−) Lead Connection	1		∞	∞	∞	∞	∞	∞	∞
	2	6.6 ~ 27		2.8 ~ 12	6.6 ~ 27	9 ~ 36	2.8 ~ 12	3.1 ~ 13	10 ~ 40
	3	1.7 ~ 7	40 ~ 160		1.7 ~ 7	4.1 ~ 16	0	0.2 ~ 0.8	4.2 ~ 17
	4	∞	∞	∞		∞	∞	∞	∞
	5	7.5 ~ 30	45 ~ 180	4.2 ~ 17	7.5 ~ 30		4.2 ~ 17	4.5 ~ 18	8.5 ~ 34
	6	1.7 ~ 7	40 ~ 160	0	1.7 ~ 7	4.1 ~ 16		0.2 ~ 0.8	4.2 ~ 17
	7	2 ~ 8.1	40 ~ 160	0.2 ~ 0.8	2 ~ 8.1	4.2 ~ 17	0.2 ~ 0.8		4.2 ~ 17
	8	12 ~ 48	50 ~ 200	6.3 ~ 27	12 ~ 48	10 ~ 42	6.3 ~ 27	7 ~ 28	

(−)* : Tester (−) Lead Connection

Battery

Sealed Battery

A sealed battery is installed on and after EX250-F9 model. The sealed battery is a sealed type, and so cannot be performed the electrolyte level check and topping-up. For the battery information of the EX250-F1 ~ F8, refer to Electrical System of the base Service Manual.

Charging Condition Inspection

Battery charging condition can be checked by measuring battery terminal voltage.

- Remove:
  - Seat
  - IC Igniter
  - Diode
- Disconnect the battery terminal leads.

CAUTION

Be sure to disconnect the negative terminal lead first.

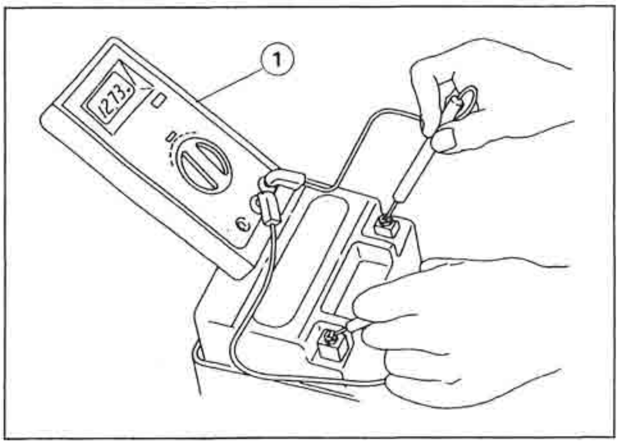
- Measure the battery terminal voltage.

NOTE

○*Measure with a digital voltmeter which can be read one decimal place voltage.*

★If the reading is below the specified, refreshing charge is required.

Battery Terminal Voltage
Standard: 12.6 V or more



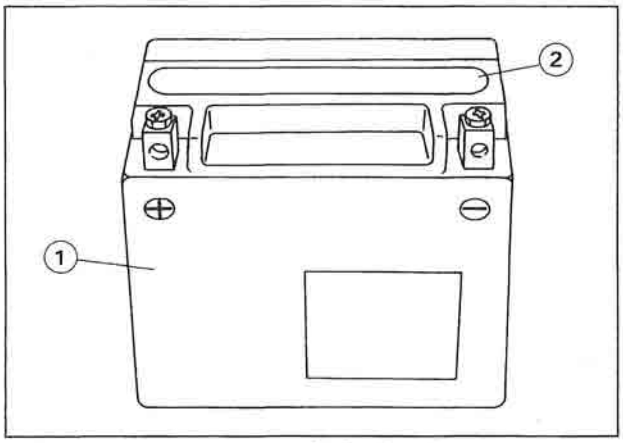
1. Digital Voltmeter

Refreshing Charge

- Remove the battery.
- Refresh-charge by following method according to the battery terminal voltage.

CAUTION

This battery is sealed type. Never remove sealing caps even at charging. Never add water. Charge with current and time as stated below.



1. Battery 2. Sealing Cap

○Terminal Voltage: **11.5 ~ 12.6 V or less**
Standard Charge : 0.7 A × 5 ~ 10 h
(see following chart)
Quick Charge : 3.0 A × 1.0 h

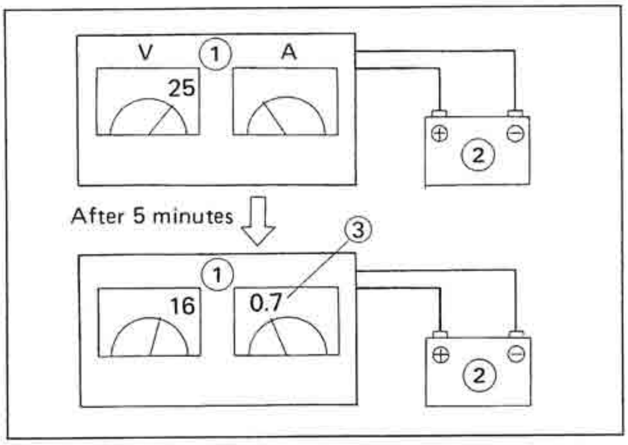
CAUTION

If possible, do not quick charge. If the quick charge is done due to unavoidable circumstances, do standard charge later on.

○Terminal Voltage: **11.5 V or less**
Charging Method : 0.7 A × 20 h

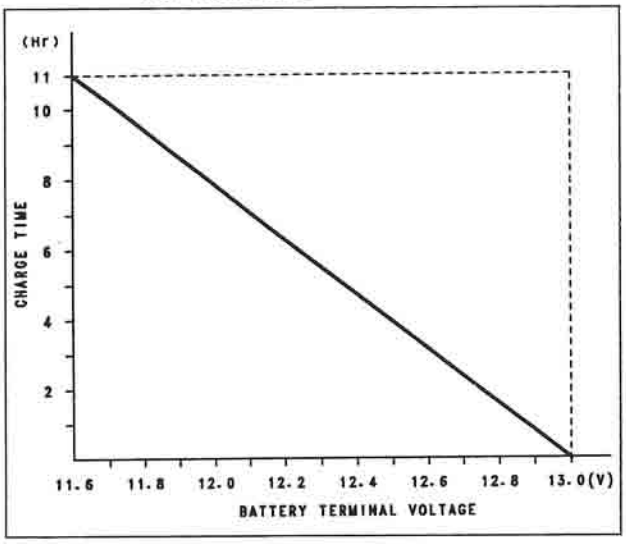
NOTE

○*Raise the voltage initially (25 V as maximum), and let down the voltage to charge when the current starts to flow as a yardstick. (If ammeter shows no change in current after 5 minutes, you need a new battery.) The current, if it can flow into the battery, tends to become excessive. Adjust the voltage as often as possible to keep the current at standard value (0.7 A).*



1. Battery Charger
2. Battery
3. Standard Value: 0.7 A

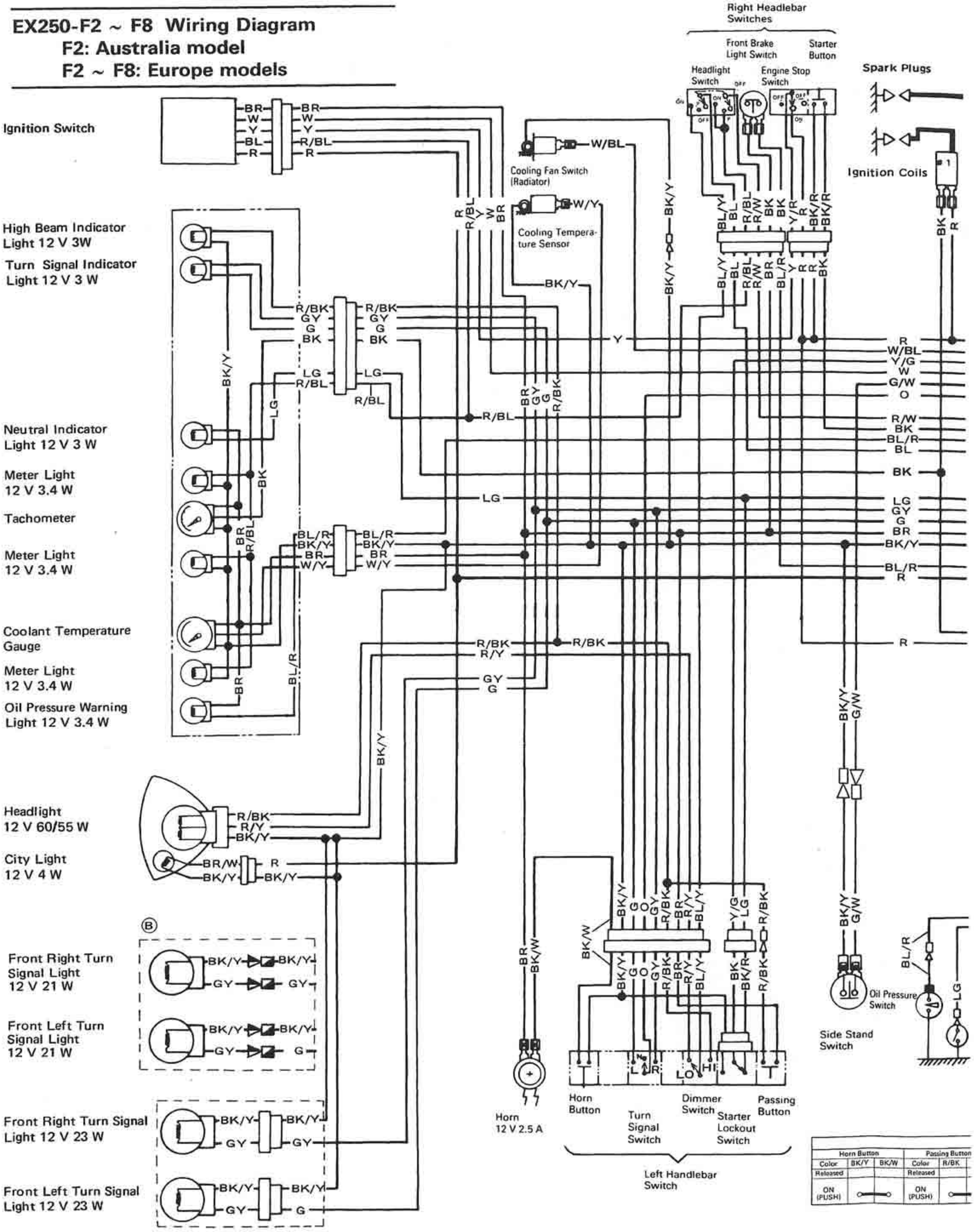
Battery Standard Charge Time Chart (0.7 A x 5 ~ 10 h Regular Current Charge) – For Reference

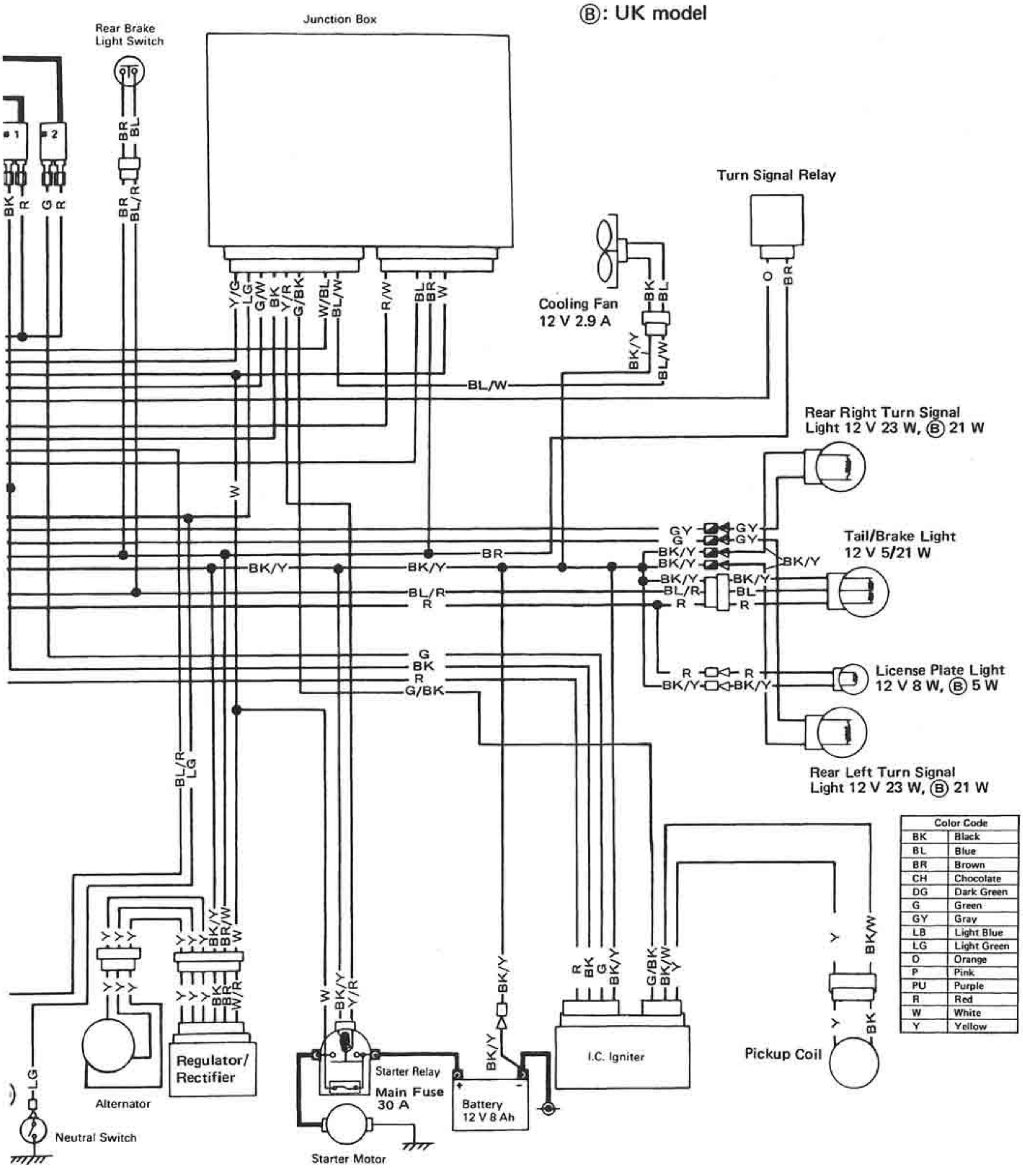


- ● Determine battery condition after refreshing charge.
- ○ Determine the condition of the battery 30 minutes after completion of the charge by measuring the terminal voltage according to the table below.

Criteria	Judgement
12.6 V or higher	Good
12.0 ~ 12.6 V or lower	Charge insufficient → Recharge.
12.0 V or lower	Unserviceable → Replace.

EX250-F2 ~ F8 Wiring Diagram
F2: Australia model
F2 ~ F8: Europe models





Color Code	
BK	Black
BL	Blue
BR	Brown
CH	Chocolate
DG	Dark Green
G	Green
GY	Gray
LB	Light Blue
LG	Light Green
O	Orange
P	Pink
PU	Purple
R	Red
W	White
Y	Yellow

LEFT HANDLEBAR SWITCH CONNECTIONS

ing Button	
R/BK	BR
○	○

Turn Signal Switch			
Color	GY	O	G
R	○	○	
N			
L		○	○

Dimmer Switch			
Color	R/BK	BL/Y	R/Y
HI	○	○	
LO		○	○

Starter Lockout Switch			
Color	BK/Y	BK	BK/R
Released		○	○
PULL	○	○	

IGNITION SWITCH CONNECTIONS

	Ignition	Battery	Ignition	Tail 1	Tail 2
Color	BR	W	Y	BL	R
OFF, LOCK					
ON	○	○	○	○	○
P (PARK)		○	—	—	○

RIGHT HANDLEBAR SWITCH CONNECTIONS

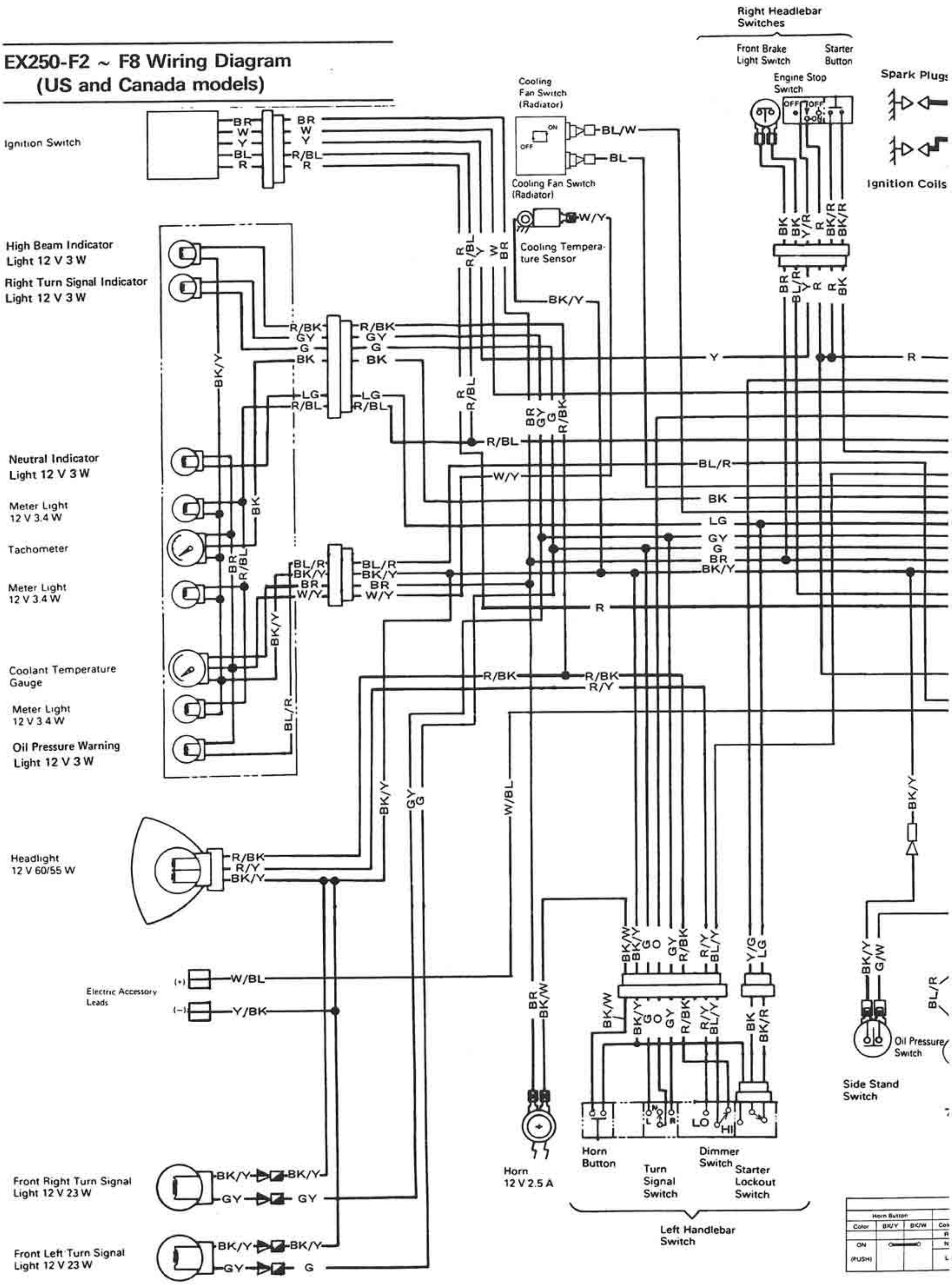
Engine Stop Switch		
Color	Y/R	R
OFF		
RUN	○	○

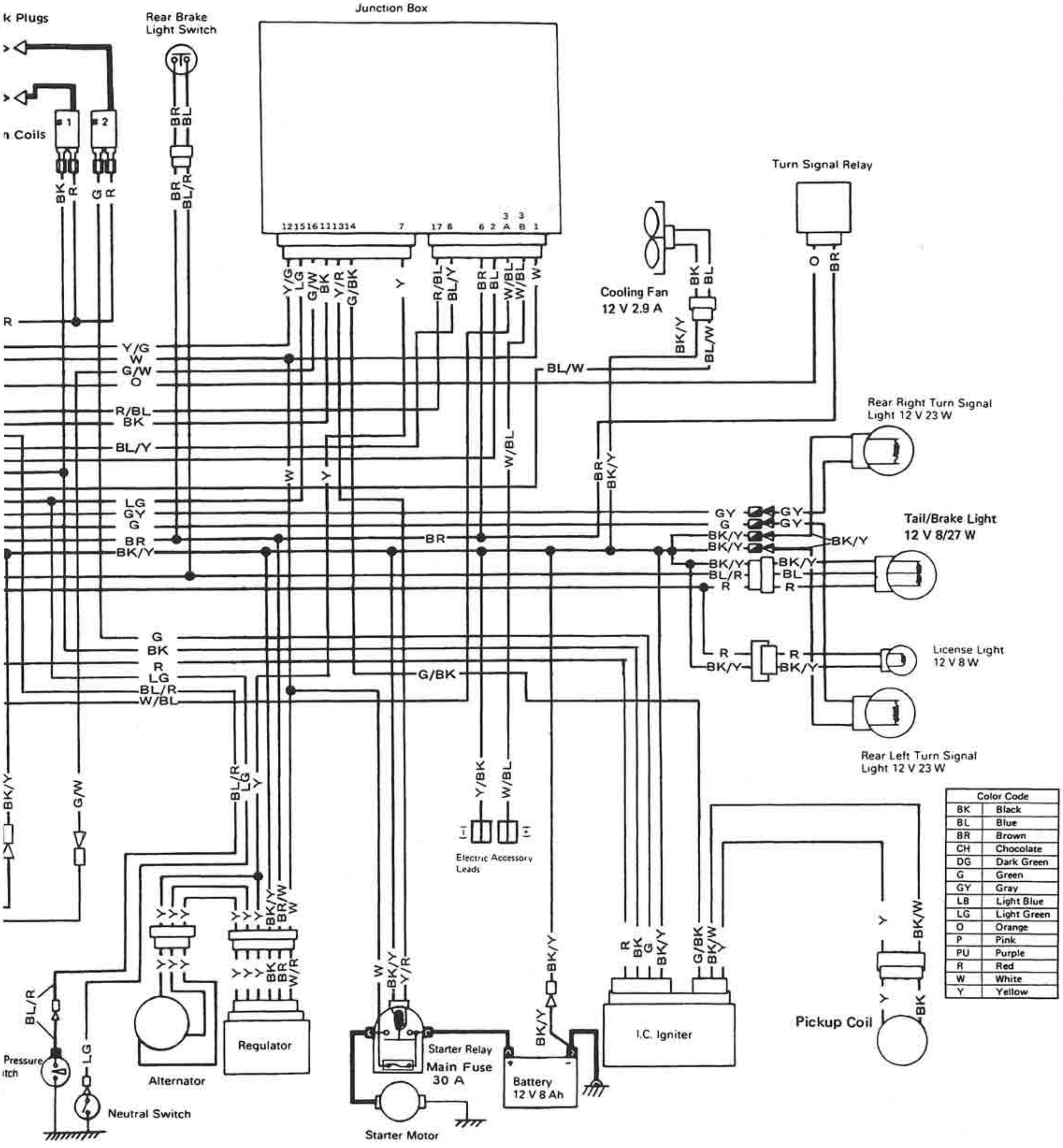
Starter Button		
Color	BK/R	BK/R
PUSH	○	○
Released		

Headlight Switch				
Color	R/W	R/BL	BL	BL/Y
OFF				
○	○	○		
ON	○	○	○	○

(98051-1083A, 1093A)

EX250-F2 ~ F8 Wiring Diagram (US and Canada models)





Color Code	
BK	Black
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BR	Brown
CH	Chocolate
DG	Dark Green
G	Green
GY	Gray
LB	Light Blue
LG	Light Green
O	Orange
P	Pink
PU	Purple
R	Red
W	White
Y	Yellow

LEFT HANDLEBAR SWITCH CONNECTIONS

	Turn Signal Switch				Dimmer Switch				Starter Lockout Switch			
BK/W	Color	GY	O	G	Color	R/BK	BL/Y	R/Y	Color	BK/Y	BK	BK/R
	R	○	○		HI	○	○		Released		○	○
○	N											
	L		○	○	LO		○	○	Pulled in	○	○	

IGNITION SWITCH CONNECTIONS

	Ignition	Battery	Ignition	Tail 1	Tail 2
Color	BR	W	Y	BL	R
OFF, LOCK					
ON	○	○	○	○	○
P (PARK)		○			○

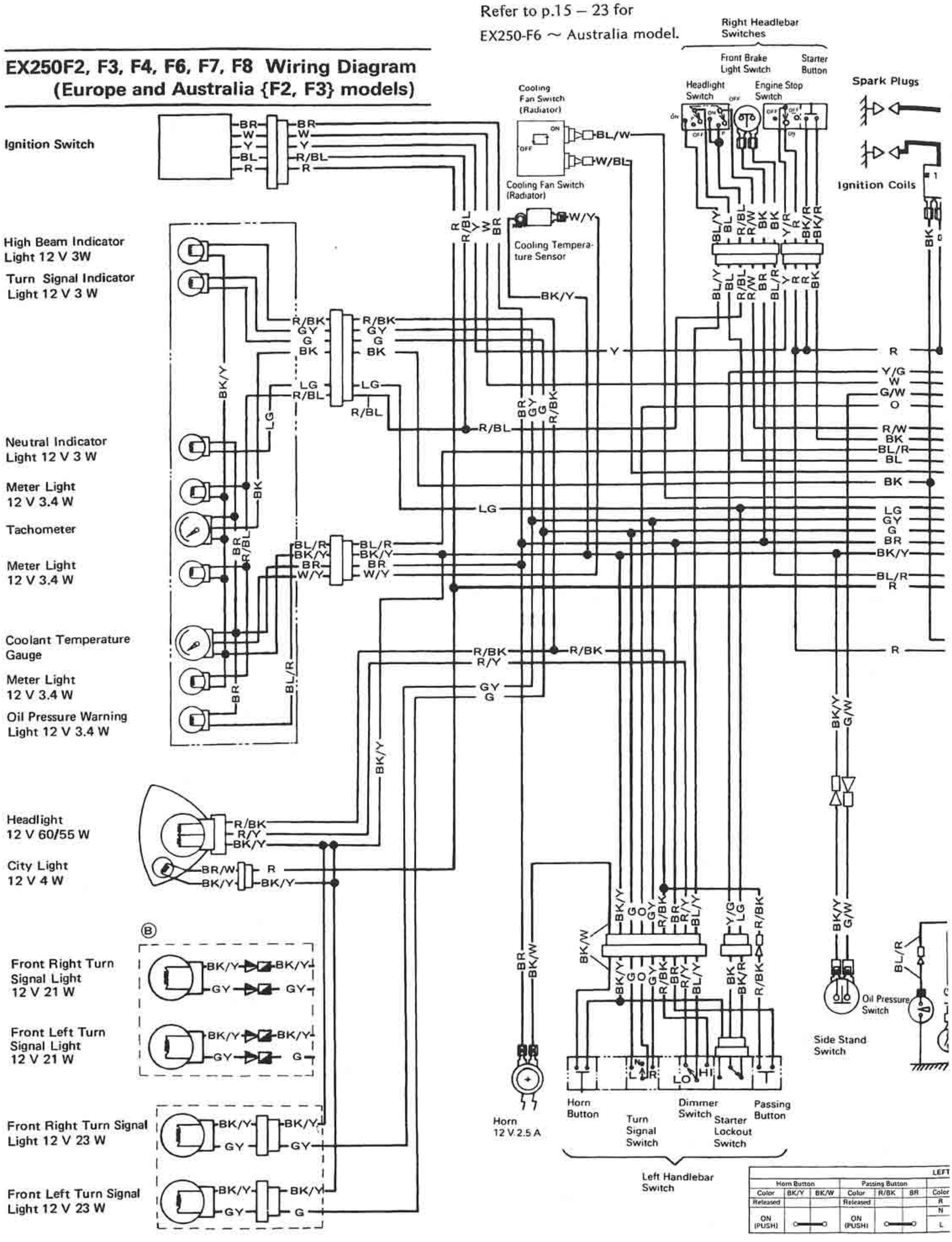
RIGHT HANDLEBAR SWITCH CONNECTION

Engine Stop Switch			Starter Button		
Color	Y/R	R	Color	BK/R	BK/R
OFF					
RUN	○	○			
			Push	○	○

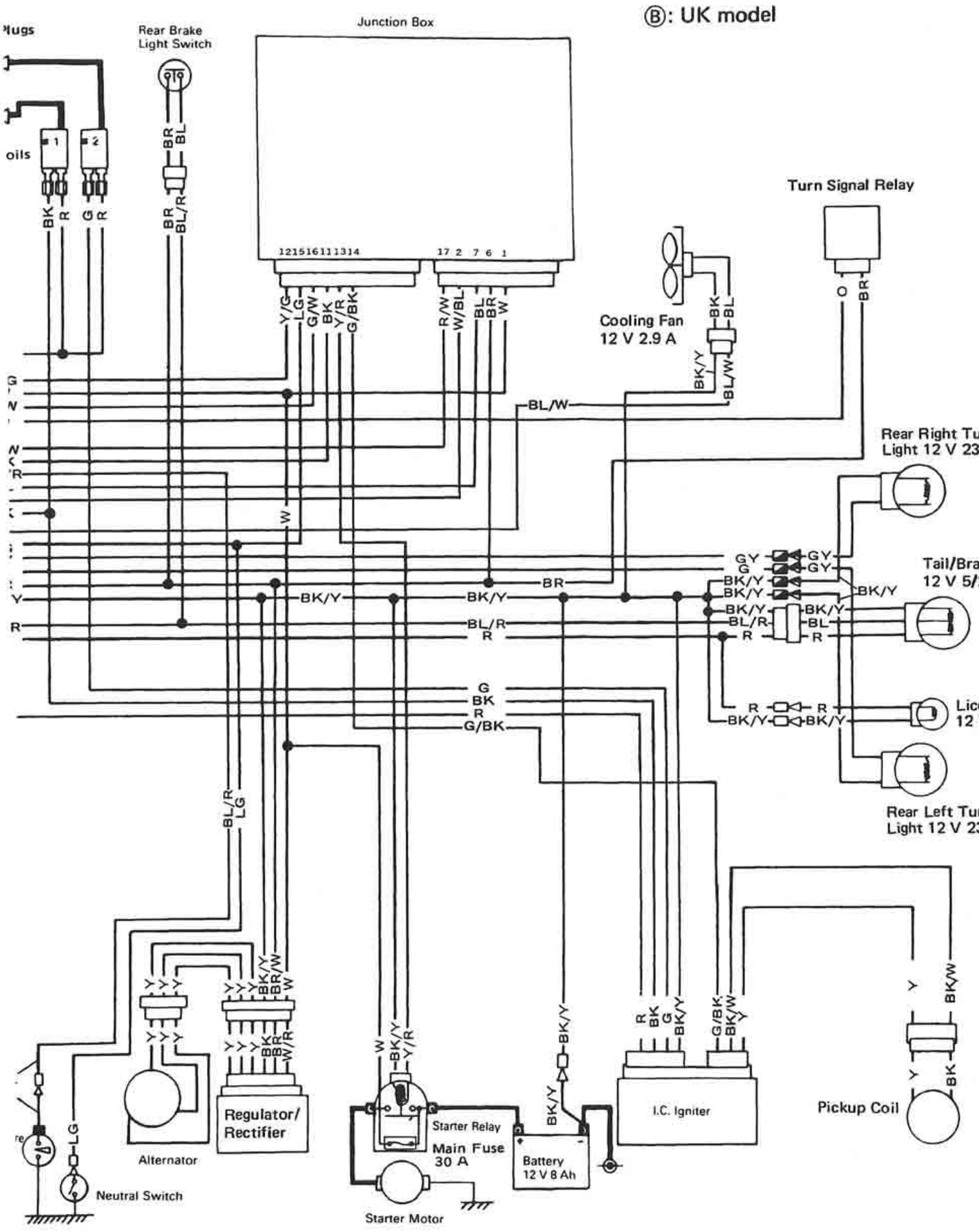
(98051-1102A)

Refer to p.15 – 23 for
EX250-F6 ~ Australia model.

EX250F2, F3, F4, F6, F7, F8 Wiring Diagram (Europe and Australia {F2, F3} models)



LEFT						
Horn Button			Passing Button			
Color	BK/Y	BK/W	Color	R/BK	BR	Color
Released			Released			R
ON (PUSH)	○—○		ON (PUSH)	○—○		N L



Color Code	
BK	Black
BL	Blue
BR	Brown
CH	Chocolate
DG	Dark Green
G	Green
GY	Gray
LB	Light Blue
LG	Light Green
O	Orange
P	Pink
PU	Purple
R	Red
W	White
Y	Yellow

LEFT HANDLEBAR SWITCH CONNECTIONS

	Turn Signal Switch				Dimmer Switch				Starter Lockout Switch			
BR	Color	GY	O	G	Color	R/BK	BL/Y	R/Y	Color	BK/Y	BK	BK/R
	R	○	○		HI	○	○		Released		○	○
	N											
○	L		○	○	LO		○	○	PULL	○	○	

IGNITION SWITCH CONNECTIONS

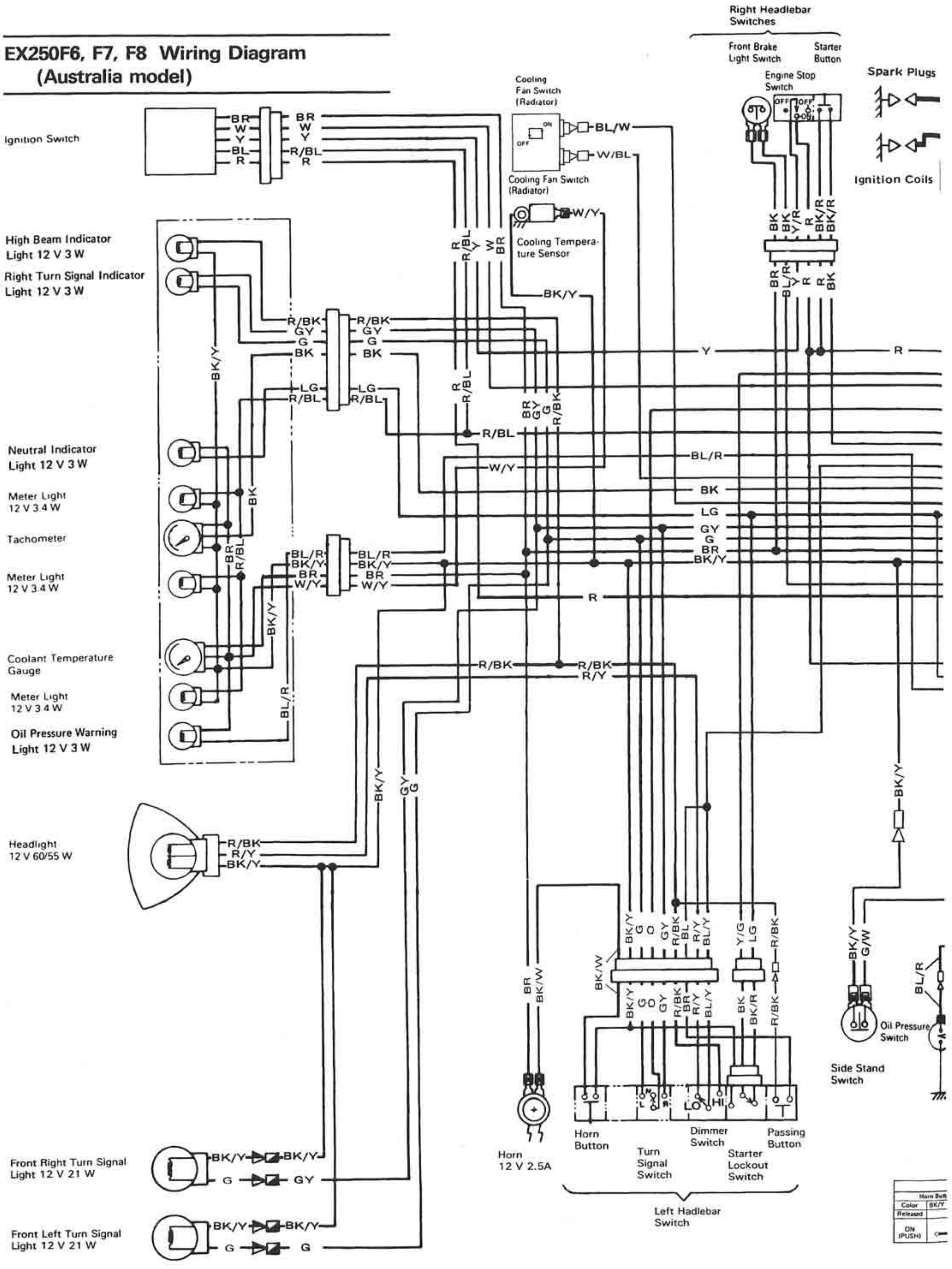
	Ignition	Battery	Ignition	Tail 1	Tail 2
Color	BR	W	Y	BL	R
OFF, LOCK					
ON	○	○	○	○	○
P (PARK)		○			○

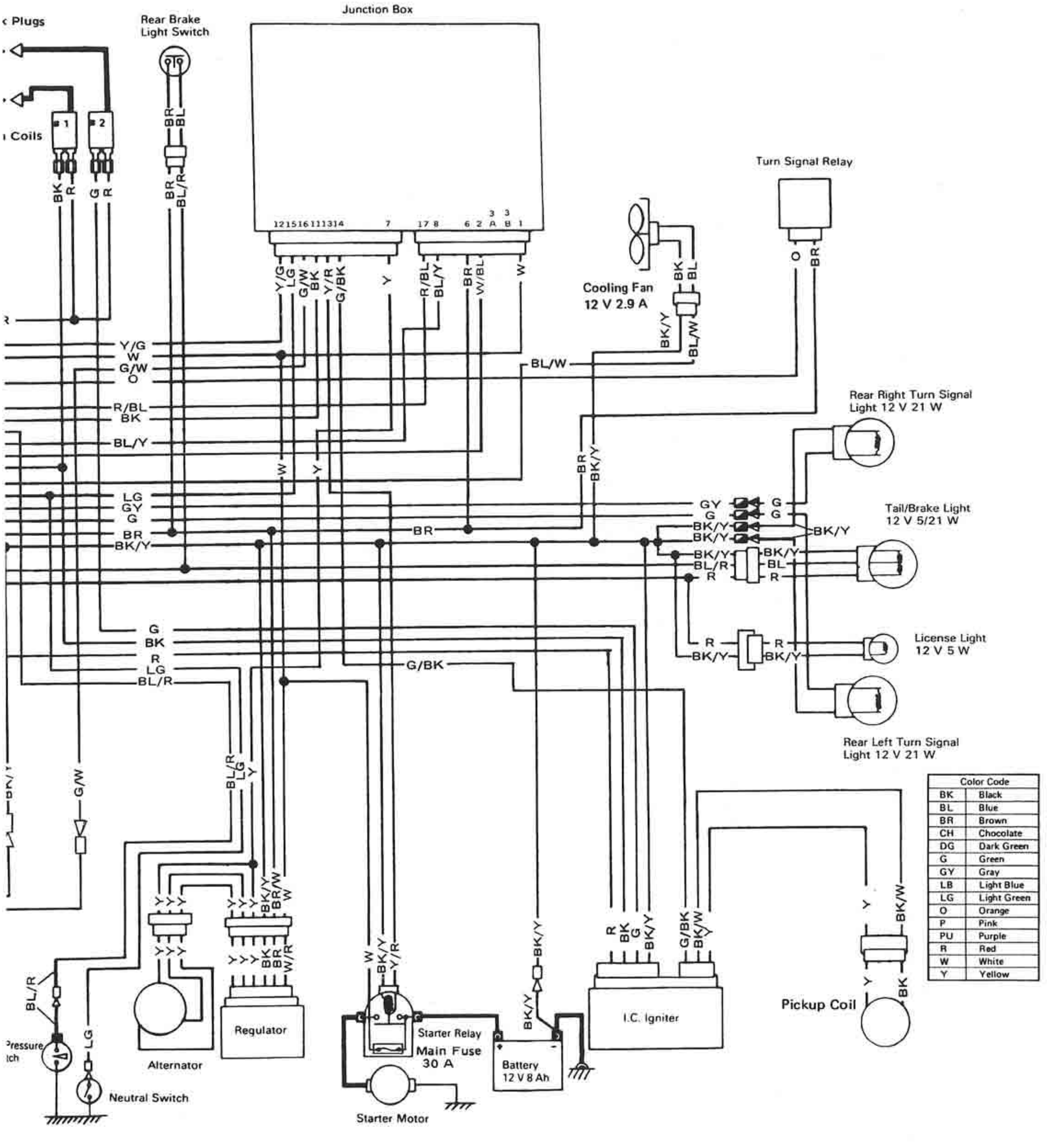
RIGHT HANDLEBAR SWITCH CONNECTIONS

Engine Stop Switch			Starter Button			Headlight Switch				
Color	Y/R	R	Color	BK/R	BK/R	Color	R/W	R/BL	BL	BL/Y
OFF			PUSH	○	○	OFF				
RUN	○	○				○	○	○		
			Released			ON	○	○	○	○

(98051-1103A, 1104A)

EX250F6, F7, F8 Wiring Diagram (Australia model)





Color Code	
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BR	Brown
CH	Chocolate
DG	Dark Green
G	Green
GY	Gray
LB	Light Blue
LG	Light Green
O	Orange
P	Pink
PU	Purple
R	Red
W	White
Y	Yellow

LEFT HANDLEBAR SWITCH CONNECTIONS

Horn Button			Passing Button			Turn Signal Switch				Dimmer Switch				Starter Lockout Switch			
Color	BK/Y	BK/W	Color	R/BK	BR	Color	GY	O	G	Color	R/BK	BL/Y	R/Y	Color	BK/Y	BK	BK/R
Released			Released			R	○	○		HI	○	○		Released		○	○
						N											
ON (PUSH)	○	○	ON (PUSH)	○	○	L		○	○	LO		○	○	PULL	○	○	

IGNITION SWITCH CONNECTIONS

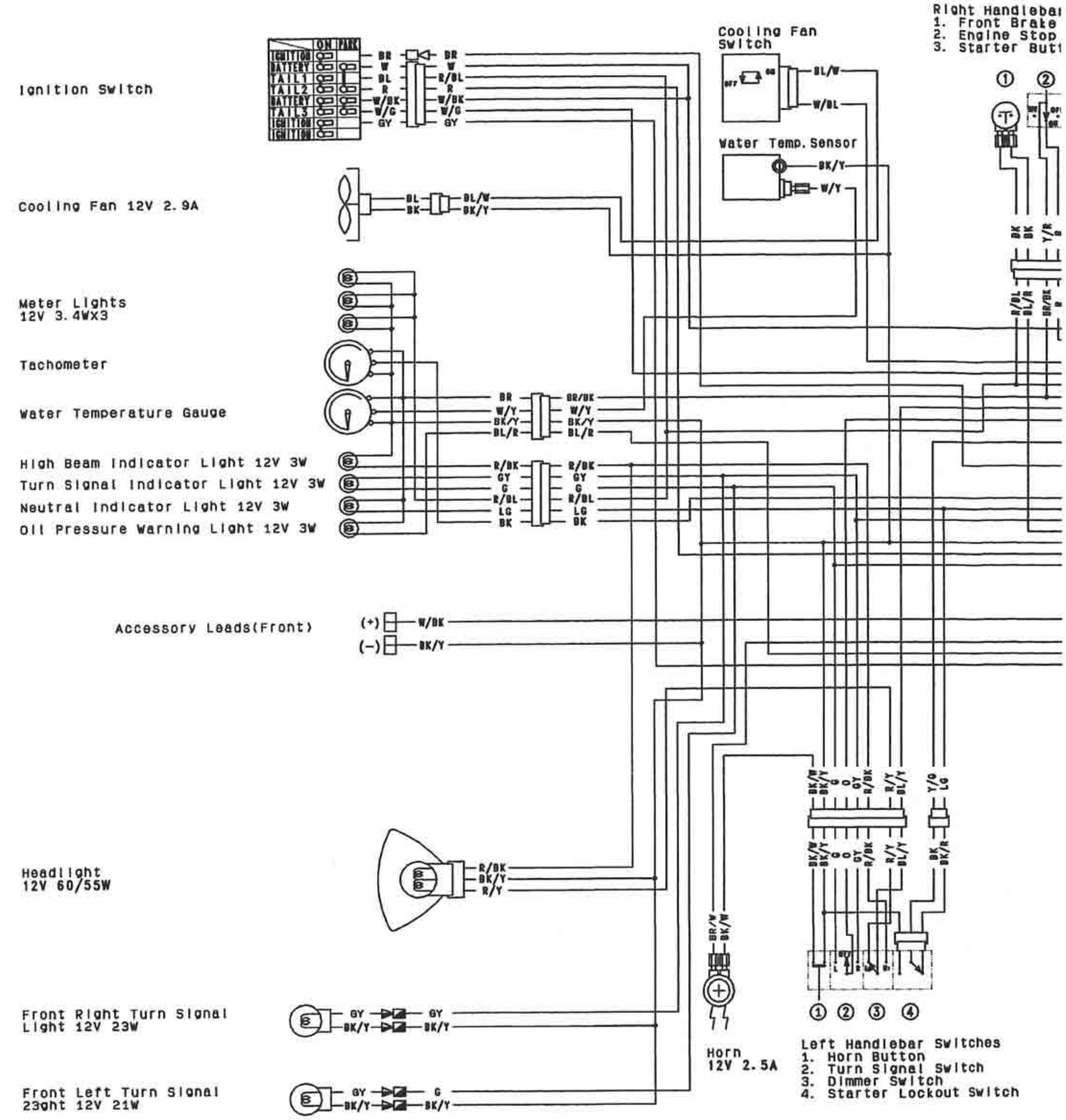
	Ignition	Battery	Ignition	Tail 1	Tail 2
Color	BR	W	Y	BL	R
OFF, LOCK					
ON	○	○	○	○	○
P (PARK)		○			○

RIGHT HANDLEBAR SWITCH CONNECTION

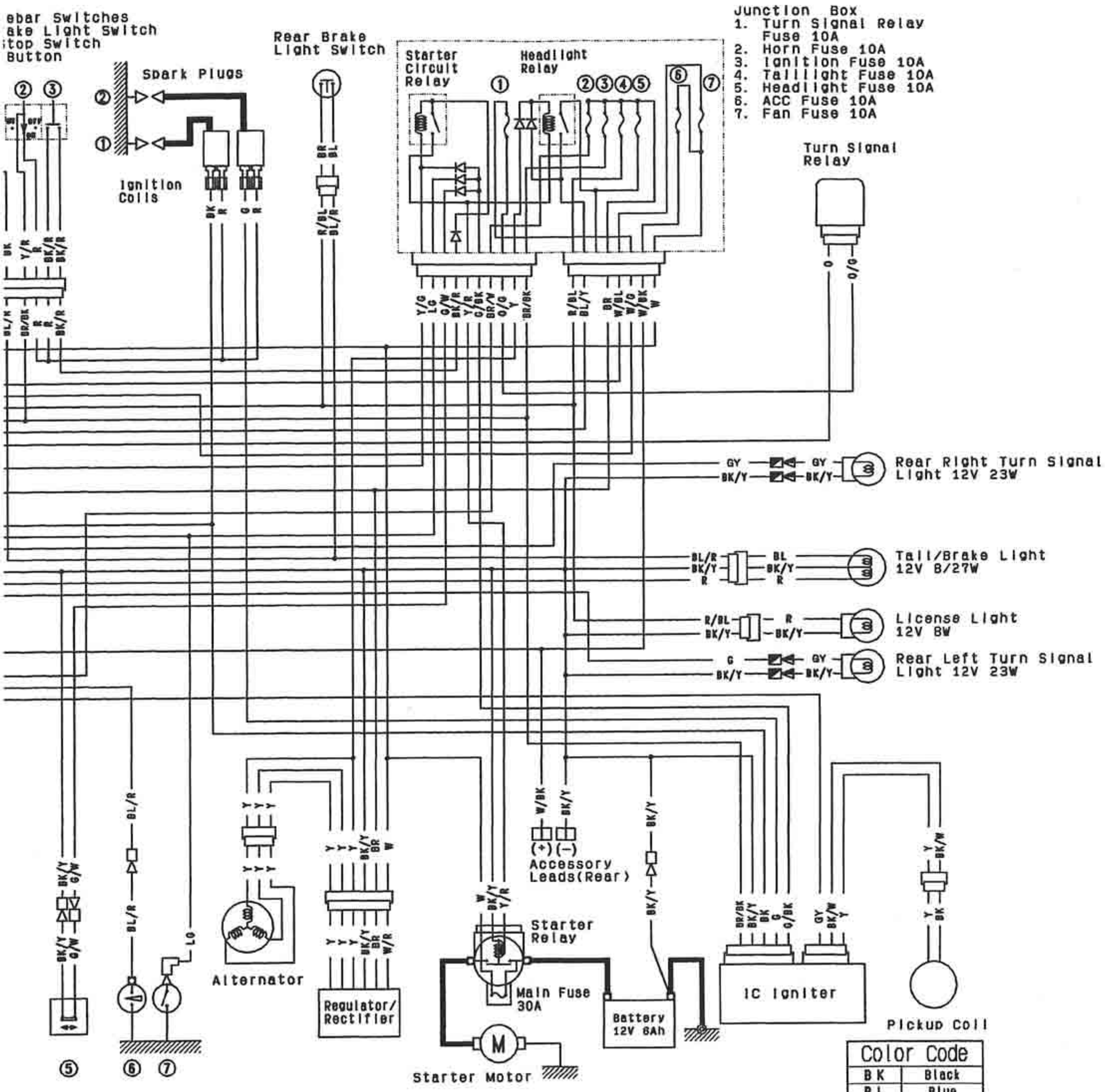
Engine Stop Switch			Starter Button		
Color	Y/R	R	Color	BK/R	BK/R
OFF					
RUN	○	○			
			Push	○	○

(98051-1299A)

EX250-F9 ~ Wiring Diagram
(US and Canada models)



LEFT HANDLEBAR SWITCH CONNECTIONS														
Horn Button			Turn Signal Switch				Dimmer Switch				Starter Lockout Switch			
Color	BK/W	BK/Y	Color	G	O	GY	Color	R/Y	BL/Y	R/BK	Color	BK/Y	BK	BK/R
Push	○	○	R		○	○	LO	○	○		Clutch Lever			
Released			OFF(Push)								Released		○	○
			L	○	○		HI		○	○	Pulled In	○	○	



5. Side Stand Switch
6. Oil Pressure Switch
7. Neutral Switch

itch
BK/R
○—○

IGNITION SWITCH CONNECTIONS

	Ignition	Battery	Ignition	Tail1	Tail2	Battery	Tail3
Color	BR	W	GY	BL	R	W/BK	W/G
OFF, LOCK							
ON	○	○		○	○	○	○
P(PARK)		○	—	—	○	○	○

RIGHT HANDLEBAR SWITCH CONNECTIONS

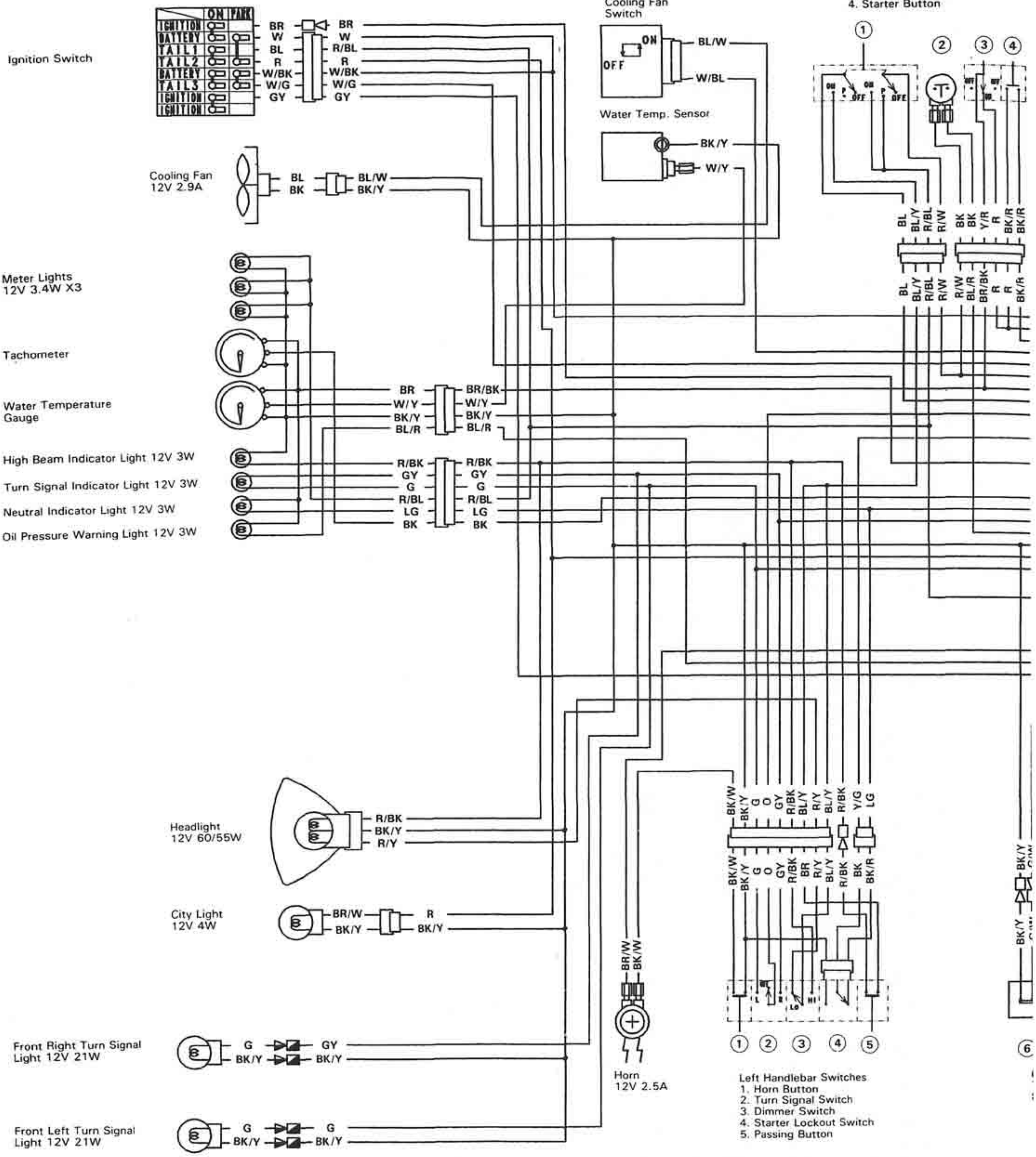
Front Brake Light Switch			Engine Stop Switch			Starter Button		
Color	BK	BK	Color	Y/R	R	Color	BK/R	BK/R
Brake Lever			OFF			Push	○	○
Pulled In	○	○				Released		
Released			RUN	○	○			

(98051-1520A)C

Color Code

BK	Black
BL	Blue
BR	Brown
CH	Chocolate
DG	Dark Green
G	Green
GY	Gray
LB	Light Blue
LG	Light Green
O	Orange
P	Pink
PU	Purple
R	Red
W	White
Y	Yellow

EX250F9, F11 Wiring Diagram (Europe models)



LEFT HANDLEBAR SWITCH CONNECTIONS

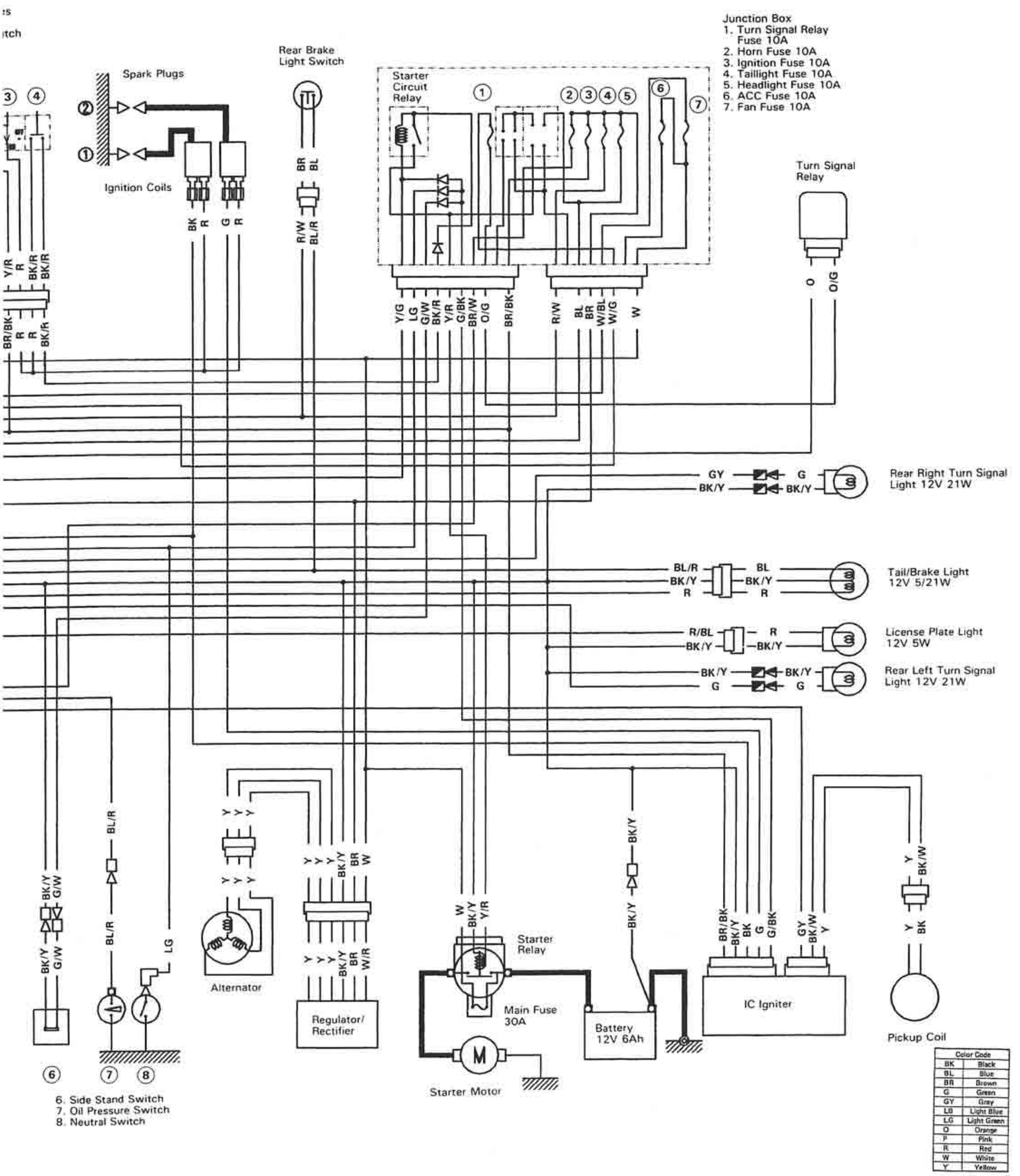
Horn Button		
Color	BK/Y	BK/W
Released		
ON (PUSH)	○	○

Passing Button		
Color	R/BK	BR
Released		
ON (PUSH)	○	○

Turn Signal Switch			
Color	GY	O	G
R	○	○	
N			
L		○	○

Dimmer Switch			
Color	R/BK	BL/Y	R/Y
HI	○	○	
LO		○	○

Starter Lockout Switch			
Color	BK/Y	BK	BK/R
Released		○	○
PULL	○	○	



Junction Box
1. Turn Signal Relay Fuse 10A
2. Horn Fuse 10A
3. Ignition Fuse 10A
4. Taillight Fuse 10A
5. Headlight Fuse 10A
6. ACC Fuse 10A
7. Fan Fuse 10A

6. Side Stand Switch
7. Oil Pressure Switch
8. Neutral Switch

Color Code	
BK	Black
BL	Blue
BR	Brown
G	Green
GY	Gray
LB	Light Blue
LG	Light Green
O	Orange
P	Pink
R	Red
W	White
Y	Yellow

t Switch	
BK	BK/R
○—	—○
○	

IGNITION SWITCH CONNECTIONS

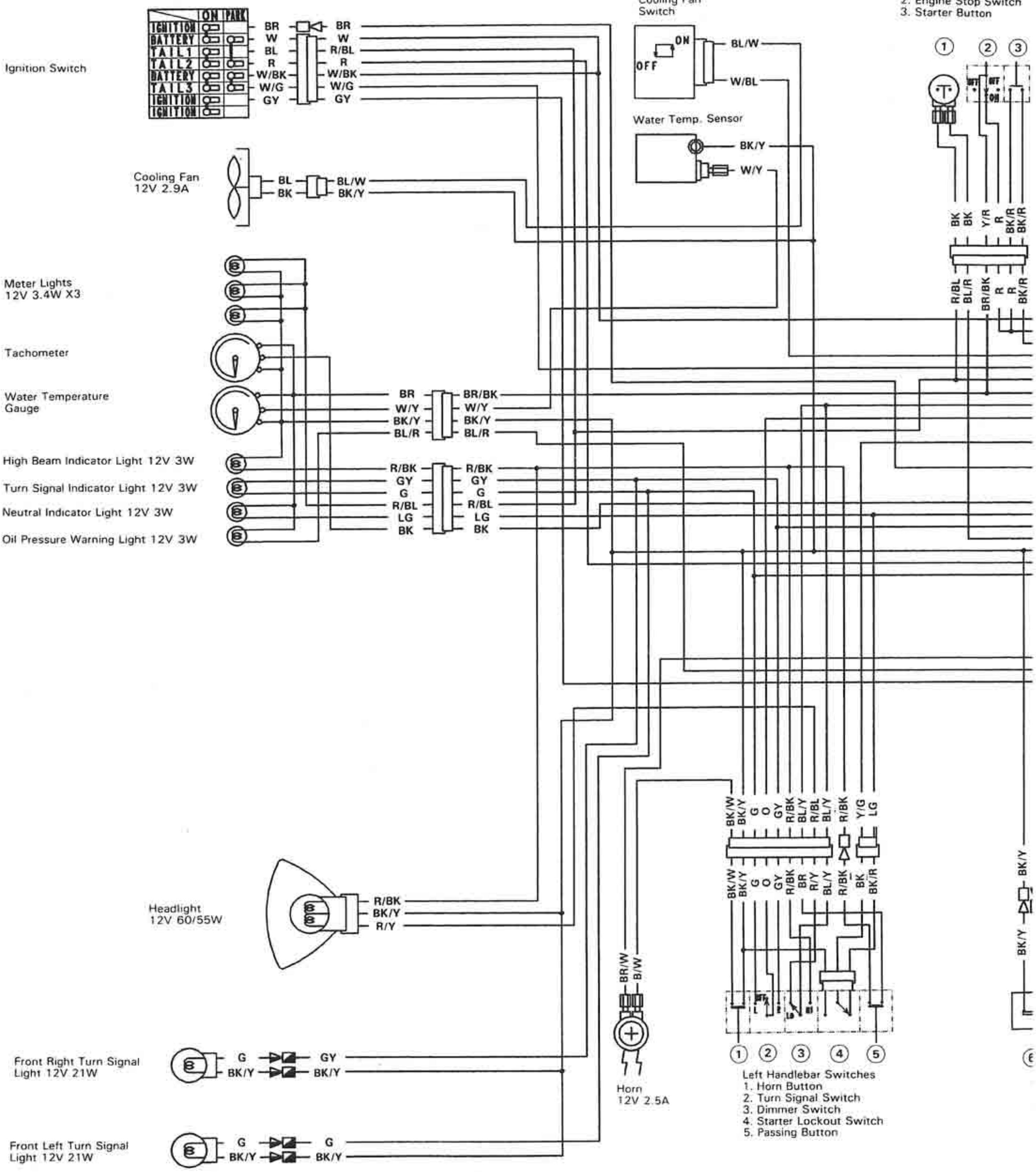
	Ignition	Battery	Ignition	Ignition	Tail 1	Tail 2	Battery	Tail 3
Color	BR	W	GY	—	BL	R	W/BK	W/G
OFF,LOCK								
ON	○—	—○	○—	—○	○—	—○	○—	—○
PARK		○—	—	—	—	—○	○—	—○

RIGHT HANDLEBAR SWITCH CONNECTIONS

Engine Stop Switch			Starter Button			Headlight Switch				
Color	Y/R	R	Color	BK/R	BK/R	Color	R/W	R/BL	BL	BL/Y
OFF			PUSH	○—	—○	OFF				
RUN	○—	—○				○	○—	—○		
			Released			ON	○—	—○	○—	—○

(98051-1522A)

EX250F9 ~, F6F ~ Wiring Diagram (Australia model)



LEFT HANDLEBAR SWITCH CONNECTIONS

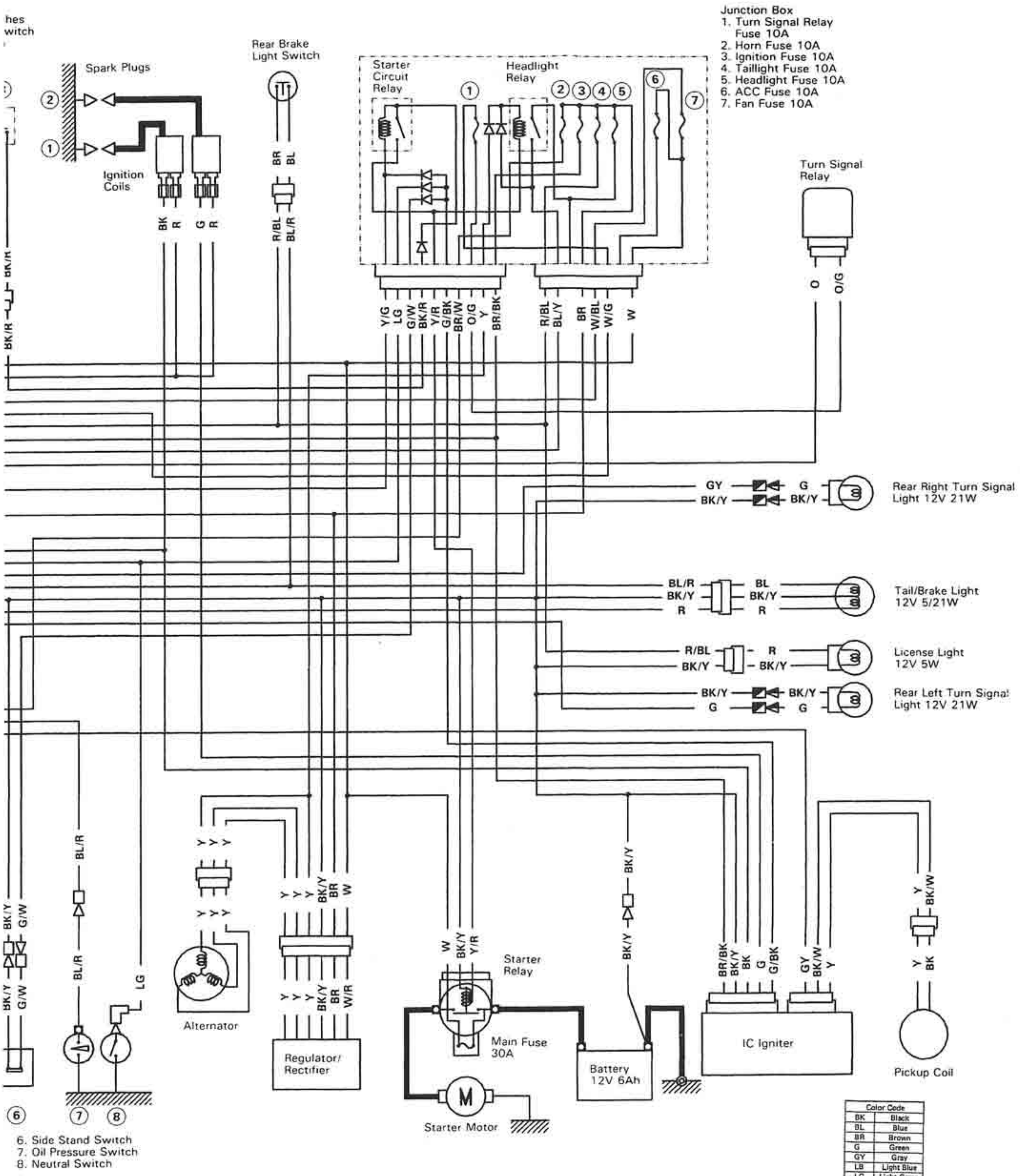
Horn Button		
Color	BK/Y	BK/W
Released		
ON (PUSH)	○	○

Passing Button		
Color	R/BK	BR
Released		
ON (PUSH)	○	○

Turn Signal Switch			
Color	GY	O	G
R	○	○	
N			
L		○	○

Dimmer Switch			
Color	R/BK	BL/Y	R/Y
HI	○	○	
LO		○	○

St
Color
Releas
PULL



Color Code	
BK	Black
BL	Blue
BR	Brown
G	Green
GY	Gray
LB	Light Blue
LG	Light Green
O	Orange
P	Pink
R	Red
W	White
Y	Yellow

Starter Lockout Switch			
lor	BK/Y	BK	BK/R
ased		○—	—○
LL	○—	—○	

IGNITION SWITCH CONNECTIONS								
	Ignition	Battery	Ignition	Ignition	Tail 1	Tail 2	Battery	Tail 3
Color	BR	W	GY	—	BL	R	W/BK	W/G
OFF,LOCK								
ON	○—	—○	○—	—○	○—	—○	○—	—○
PARK		○—	—	—	—	—○	○—	—○

RIGHT HANDLEBAR SWITCH CONNECTIONS					
Engine Stop Switch			Starter Button		
Color	Y/R	R	Color	BK/R	BK/R
OFF					
RUN	○—	—○			
			Push	○—	—○

(98051-1521A)

Appendix

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    Spark Plug Inspection . . . . *
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    Lubrication . . . . *
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    Tightness Inspection 16-2
Unit Conversion Table. 16-3

Troubleshooting Guide

Refer to the Base Manual noting the following.

Clutch Operation Faulty:

Clutch slipping:

Clutch spring plate misalignment

Clutch not disengaging properly:

Clutch spring plate misalignment
Incorrect installation of friction plates

Nut, Bolt, and Fastener Tightness

Tightness Inspection

Refer to the Base Manual noting the following.

Nut, Bolt, and Fastener to be checked

Wheels:

Rear Sprocket Mounting Nuts

Steering:

Stem Head Bolt
Handlebar Mounting Bolts
Handlebar Clamp Bolts

Others:

Side Stand Bolt
Side Stand Bracket Bolts

Unit Conversion Table

Prefixes for Units:

Prefix	Symbol	Power
mega	M	x 1,000,000
kilo	k	x 1,000
centi	c	x 0.01
milli	m	x 0.001
micro	μ	x 0.000001

Units of Mass:

kg x 2.205 = lb
g x 0.03527 = oz

Units of Volume:

L x 0.2642 = gal (US)
L x 0.2200 = gal (imp)
L x 1.057 = qt (US)
L x 0.8799 = qt (imp)
L x 2.113 = pint (US)
L x 1.816 = pint (imp)
mL x 0.03381 = oz (US)
mL x 0.02816 = oz (imp)
mL x 0.06102 = cu in

Units of Force:

N x 0.1020 = kg
N x 0.2248 = lb

kg x 9.807 = N
kg x 2.205 = lb

Units of Length:

km x 0.6214 = mile
m x 3.281 = ft
mm x 0.03937 = in

Units of Torque:

N-m x 0.1020 = kg-m
N-m x 0.7376 = ft-lb
N-m x 8.851 = in-lb

kg-m x 9.807 = N-m
kg-m x 7.233 = ft-lb
kg-m x 86.80 = in-lb

Units of Pressure:

kPa x 0.01020 = kg/cm²
kPa x 0.1450 = psi
kPa x 0.7501 = cm Hg

kg/cm² x 98.07 = kPa
kg/cm² x 14.22 = psi
cm Hg x 1.333 = kPa

Units of Speed:

km/h x 0.6214 = mph

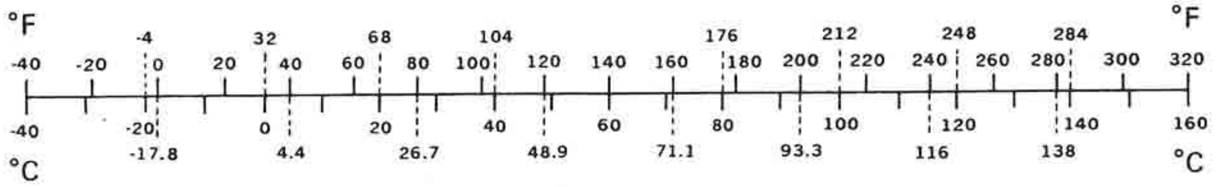
Units of Power:

kW x 1.360 = PS
kW x 1.341 = HP

PS x 0.7355 = kW
PS x 0.9863 = HP

Units of Temperature:

$$\frac{9\,(°C + 40)}{5} - 40 = °F \qquad \frac{5\,(°F + 40)}{9} - 40 = °C$$



Supplement - 2000Model

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Foreword

How to Use this Manual

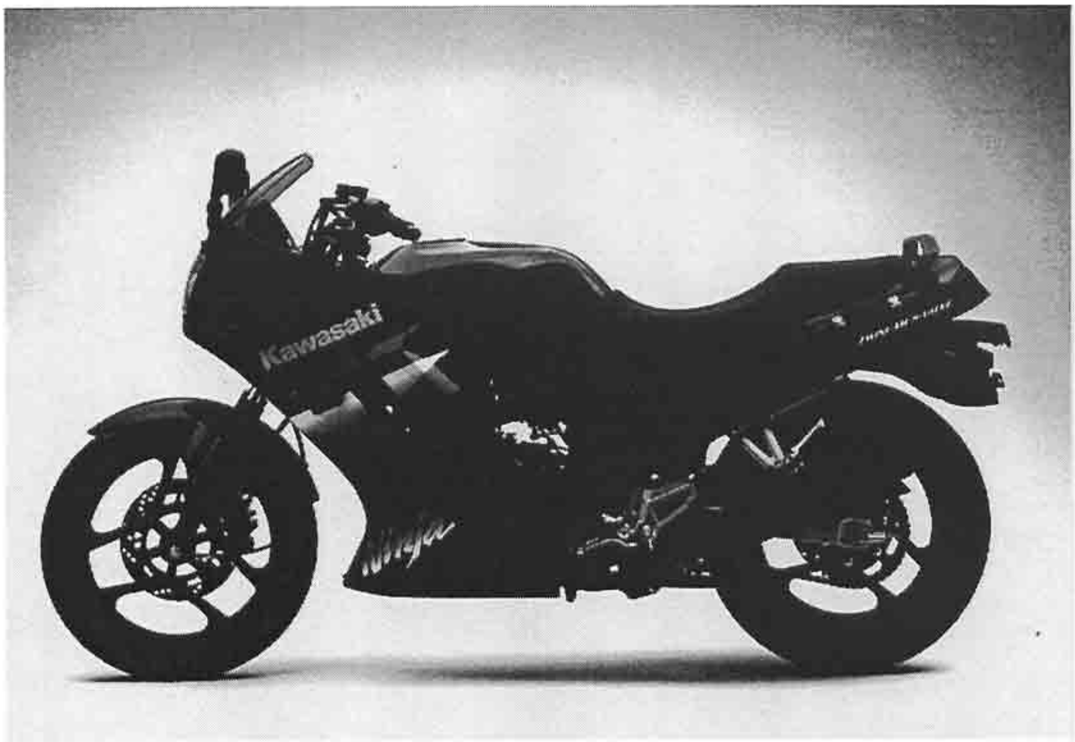
This "Supplement - 2000 Model" designed to be used in conjunction with the front part of this manual (up to 16-3) and/or Base Manual Ninja250R(GPZ250R) Service Manual - Part No.99924-1066-01. The specifications and maintenance procedures described in this chapter are only those that are unique to the EX250 - F14 model.

Complete and proper servicing the EX250 - F14 model therefore requires mechanics to read both this chapter and the front of this manual.

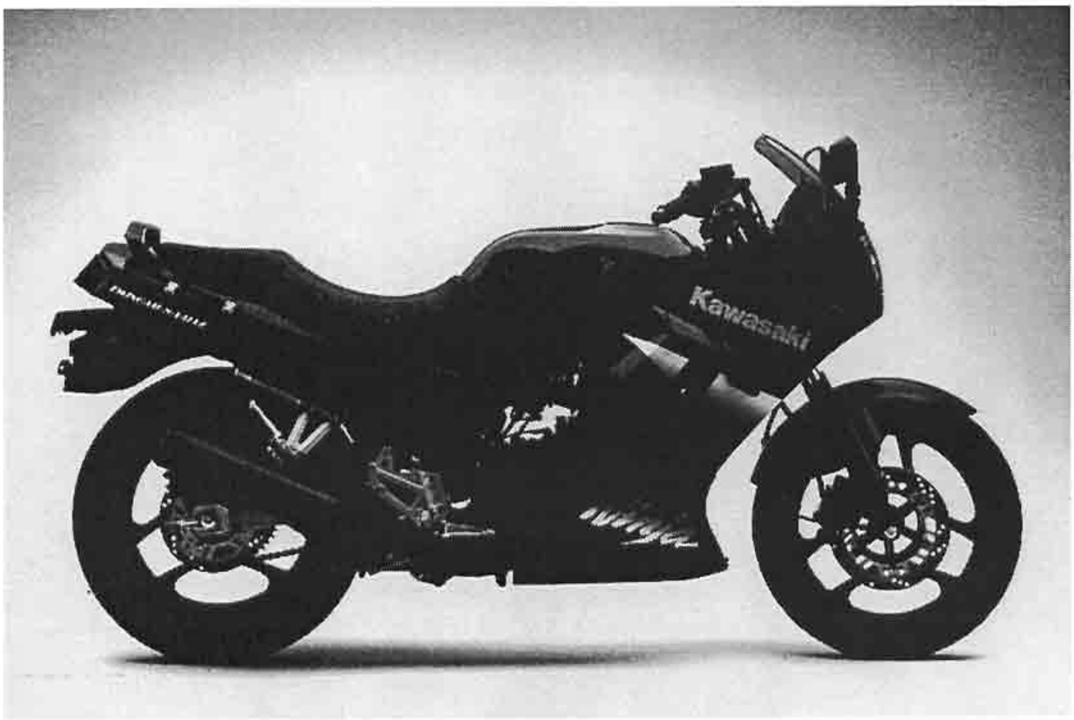
General Information

Model Identification

EX250 - F14 Left Side View



EX250 - F14 Right Side View



General Specification

Items	EX250-F14
Engine:	
Type	4-stroke, DOHC, 2-cylinder
Cooling system	Liquid-cooled
Bore and stroke	62.0 × 41.2 mm
Displacement	248 mL
Compression ratio	12.4
Maximum horsepower	27.9 kW (38 PS) @ 11 000 r/min (rpm), (US) –, (AU) 27.9 kW (38 PS) @ 12 000 r/min (rpm)
Maximum torque	24.5 N·m (2.5 kgf·m, 18.1 ft·lb) @ 10 000 r/min (rpm), (US) –
Carburetion system	Caburetors, Keihin CVK30 × 2
Starting system	Electric starter
Ignition system	Battery and coil (transistorized)
Timing advance	Electronically advance
Ignition timing	From 10°BTDC @ 1 300 r/min (rpm) to 42°BTDC @ 4 500 r/min (rpm), (CAL) From 5°BTDC @ 1 300 r/min (rpm) to 42°BTDC @ 4 500 r/min (rpm)
Spark plug (STD)	NGK CR8HSA or ND U24FS-U (AU) NGK C8HA or ND U24FS-L
Cylinder numbering method	Left to right, 1-2
Firing order	1-2
Valve timing: Inlet Open	30° BTDC
Close	70° ABDC
Duration	280°
Exhaust Open	70° BBDC
Close	30° ATDC
Duration	280°
Lubrication system	Forced lubrication (wet sump)
Engine oil: Grade	SE, SF or SG class
Viscosity	SAE 10W-40, 10W-50, 20W-40, or 20W-50
Capacity	1.9 L
Electrical Equipment:	
Battery	12V 6Ah
Headlight: Type	Semi-sealed beam
Bulb	12V 60/50 W (quartz - halogen)
Tail/brake light	12V 8/27 W × 2, (AS) 12V 5/21 W × 2
Alternator: Type	Three - phase AC
Rated output	17A/14V @1000 r/min (rpm)

Specifications are subject to change without notice and may not apply to every country.
(AU) : Australia
(CAL) : California
(US) : United States

Fuel System

Specifications

Carburetor Specifications

Make, Type:	Keihin, CVKD30
Main Jet:	#105
Main Air Jet:	#100 (AU)#80
Needle Jet Mark:	N161
Pilot Jet (Slow Jet)	#38
Pilot Air Jet (Slow Air Jet)	#90
Pilot Screw (Turns Out):	(AU) 2 1/8, (US)(CAL) –
Starter Jet:	#52
Idle Speed:	1 300 ± 50 r/min (rpm)
Service Fuel Level:	0.5 mm below ~ 1.5 mm above
from carburetor body bottom edge	
Float height:	17.0 ± 2 mm
High Altitude Carburetor Specifications ((US)(CAL)) –	
Main Jet:	#102
Pilot Jet:	#35
Optional Parts	
Main Jet:	#100, 102, 108, 110
Pilot Jet:	(CAL)(US) #35

(AU): Australia
(CAL): California
(US): United States

Electrical System

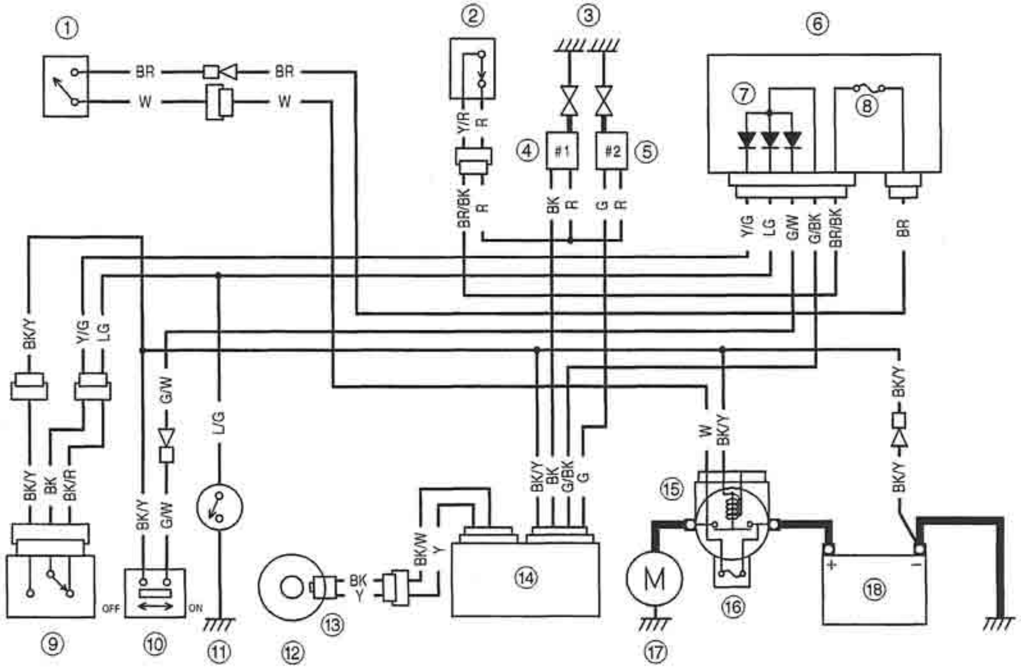
Specifications

Spark plug specifications

	STD	Option
U.S.A. & California Model	NGK CR8HSA ND U24FS-U	NGK CR7HSA ND U22FS-U
Australia Model	NGK C8HA ND U24FS-L	NGK C7HA ND U22FS-L

Ignition System

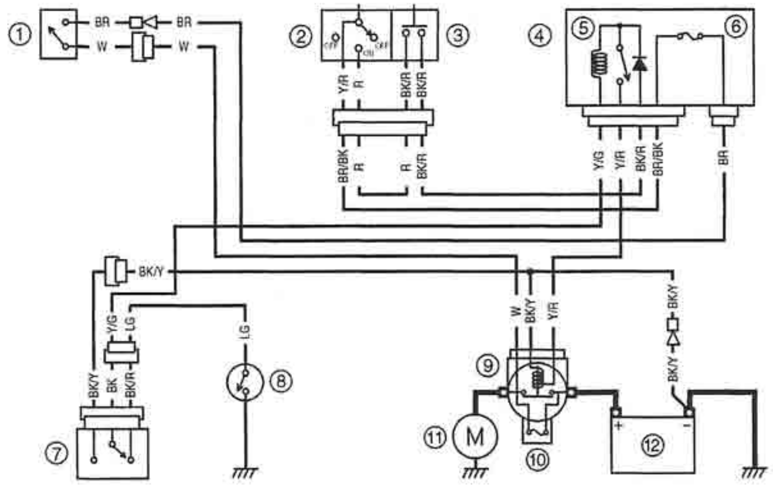
Ignition Circuit



1. Ignition Switch
2. Engine Stop Switch
3. Spark Plugs
4. Ignition Coil (#1)
5. Ignition Coil (#2)
6. Junction Box
7. Diodes
8. Ignition Fuse 10A
9. Starter Lockout Switch
10. Side Stand Switch
11. Neutral Switch
12. Alternator
13. Pickup Coil
14. Igniter
15. Starter Relay
16. Main Fuse 30A
17. Starter Motor
18. Battery

Electric Starter System

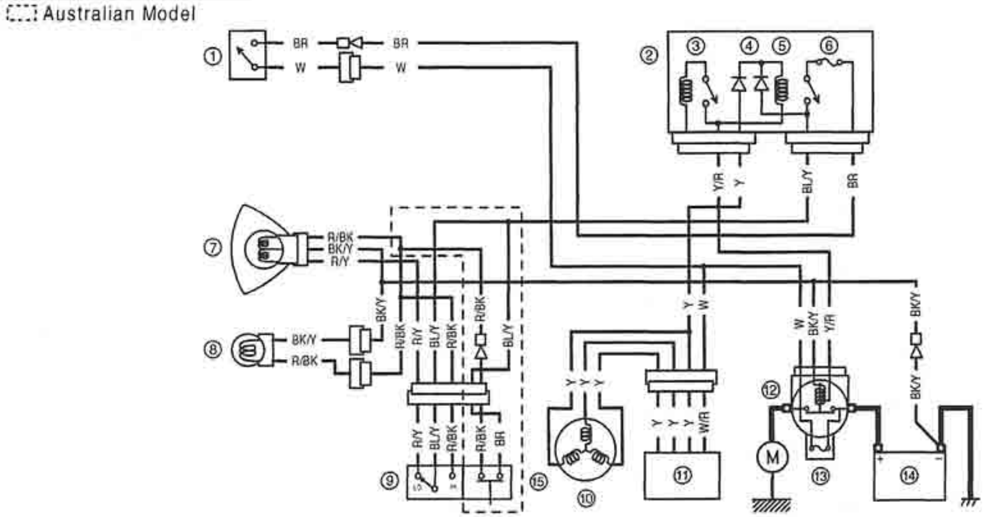
Electric Starter Circuit



1. Ignition Switch
2. Engine Stop Switch
3. Starter Button
4. Junction Box
5. Starter Circuit Relay
6. Ignition Fuse 10A
7. Starter Lockout Switch
8. Neutral Switch
9. Starter Relay
10. Main Fuse 30A
11. Starter Motor
12. Battery

Lighting System

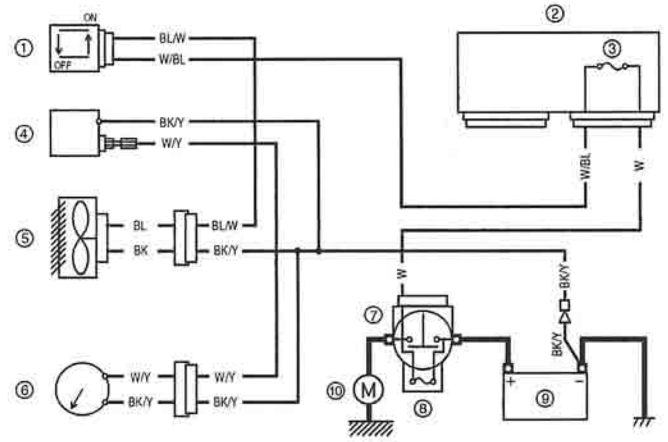
Headlight Circuit



1. Ignition Switch
2. Junction Box
3. Starter Circuit Relay
4. Diodes
5. Headlight Relay
6. Headlight Fuse 10A
7. Headlight
8. High Beam Indication Light
9. Dimmer Switch
10. Alternator
11. Regulator / Rectifier
12. Starter Relay
13. Main Fuse 30A
14. Battery
15. Passing Switch (Australian Model)

Cooling Fan System

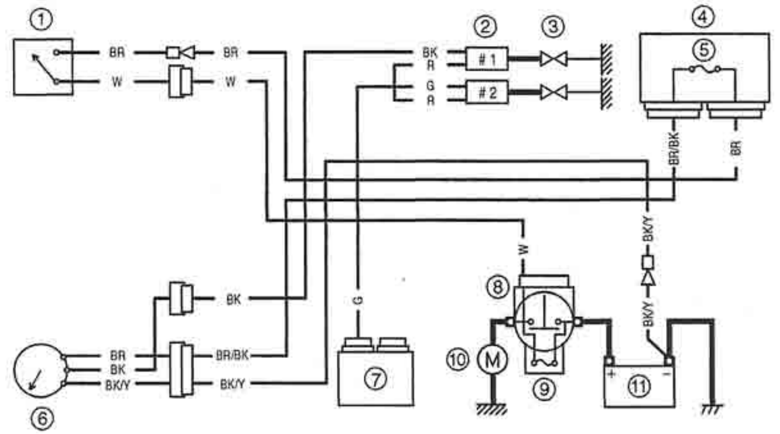
Cooling Fan Circuit



1. Radiator Fan Switch
2. Junction Box
3. Fan Fuse 10A
4. Water Temperature Sensor
5. Fan
6. Water Temperature Meter
7. Starter Relay
8. Main Fuse 30A
9. Battery
10. Starter Motor

Meters and Gange

Tachometer Circuit



1. Ignition Switch
2. Ignition Coils
3. Spark Plugs
4. Junction Box
5. Ignition Fuse 10A
6. Tachometer
7. Igniter
8. Stater Relay
9. Main Fuse 30A
10. Starter Motor
11. Battery

Supplement-2001 Model

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Foreword

How to Use this Manual

This "Supplement-2001 Model" designed to be used in conjunction with the front part of this manual (up to 17–10) and/or Base Manual Ninja250R(GPZ250R) Service Manual-Part No.99924–1066–01. The specifications and maintenance procedures described in this chapter are only those that are unique to the EX250–F15 model.

Complete and proper servicing the EX250–F15 model therefore requires mechanics to read both this chapter and the front of this manual.

General Information

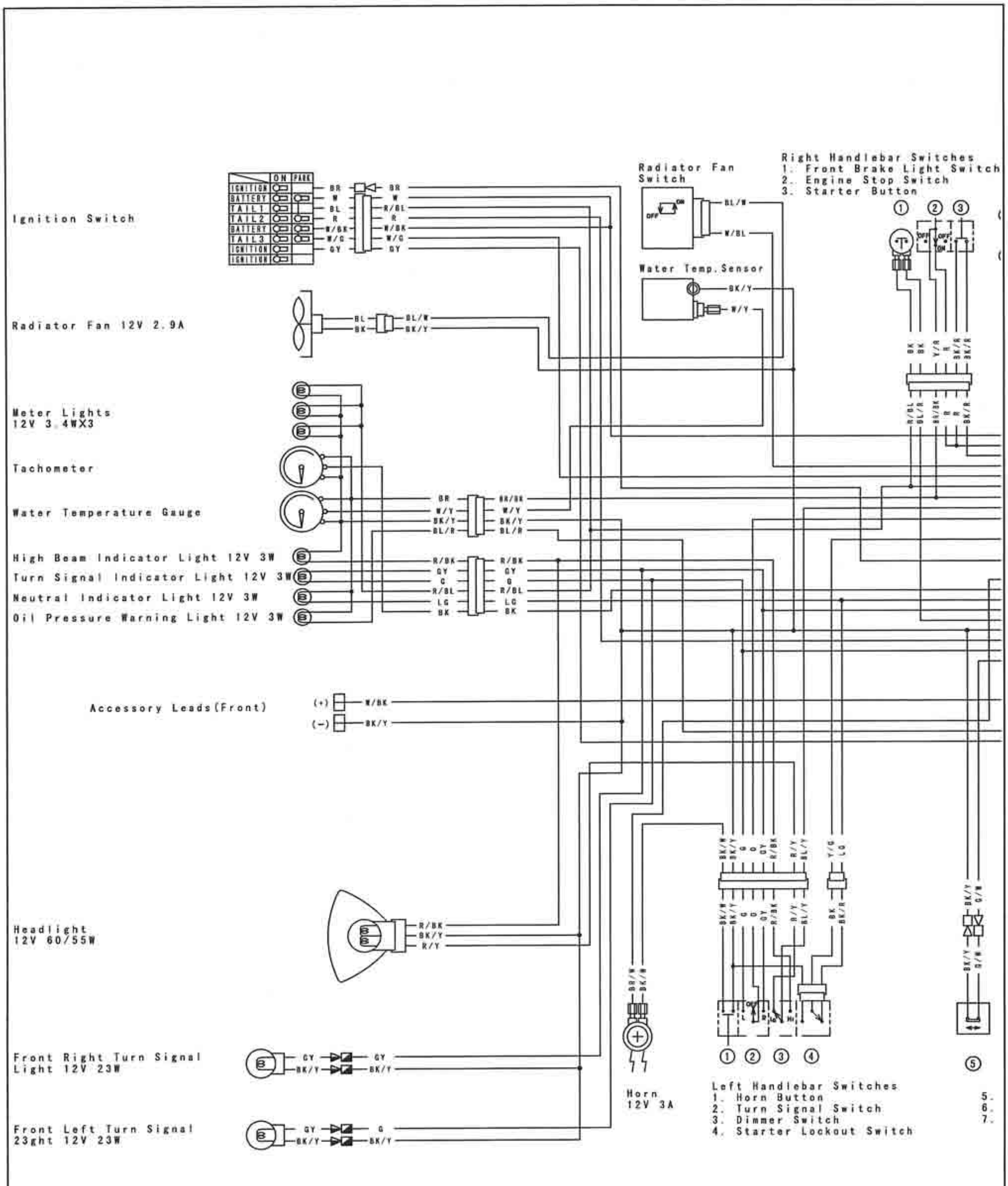
General Specifications

Items		EX250-F15
Engine		
Type		4-stroke, DOHC, 2-cylinder
Cooling system		Liquid cool
Bore and stroke		62.0 × 41.2 mm
Displacement		248 mL
Compression ratio		12.4
Maximum horsepower		27.9 KW (38PS) @12 000 r/min (rpm), (US) -
Maximum torque		24.5 N·m (2.5 kgf·m, 18.1 ft·lb) @10 000 r/min (rpm) (US) -
Carburetion system		Carburetors, Keihin CVKD 30 × 2
Starting system		Electric starter
Ignition system		Battery and coil (transistorized)
Timing advance		Electronically advanced
Ignition timing		From 10° BTDC @1 300 r/min (rpm) to 42° BTDC @4 500 r/min (rpm), (CAL) From 5° BTDC @1 300 r/min (rpm) to 42° BTDC @4 500 r/min (rpm),
Spark plug STD		NGK CR 8HSA or NDU 24 FS-U (AU) NGK C8HA or NDU 24 FS-L
Cylinder numbering method		Left to Right, 1-2
Firing order		1-2
Valve timing : Inlet	Open	30° BTDC
	Close	70° ABDC
	Duration	280°
Exhaust	Open	70° BBDC
	Close	30° ATDC
	Duration	280°
Lubrication system		Forced lubrication (wet sump)
Engine oil : Grade		API SE, SF or SG class/API SH or SJ with JASO MA class
Viscosity		SAE 10W-40, 10W-50, 20W-40, or 20W-50
Capacity		1.9 L
Electrical Equipment		
Battery		12 V 6 Ah
Headlight : Type		Semi - sealed beam
Bulb		12 V 60/55 W (quartz-halogen)
Tail/brake light		12 V 5/21 W
Alternator : Type		Three-phase AC
Rated output		17 A/14 V @10 000 r/min (rpm)

Specifications are subject to change without notice and may not apply to every country.
(AU): Australia
(CAL): California
(US): United States

Electrical System

EX250-F15 ~, F6F ~ Wiring Diagram (US and Canada models)

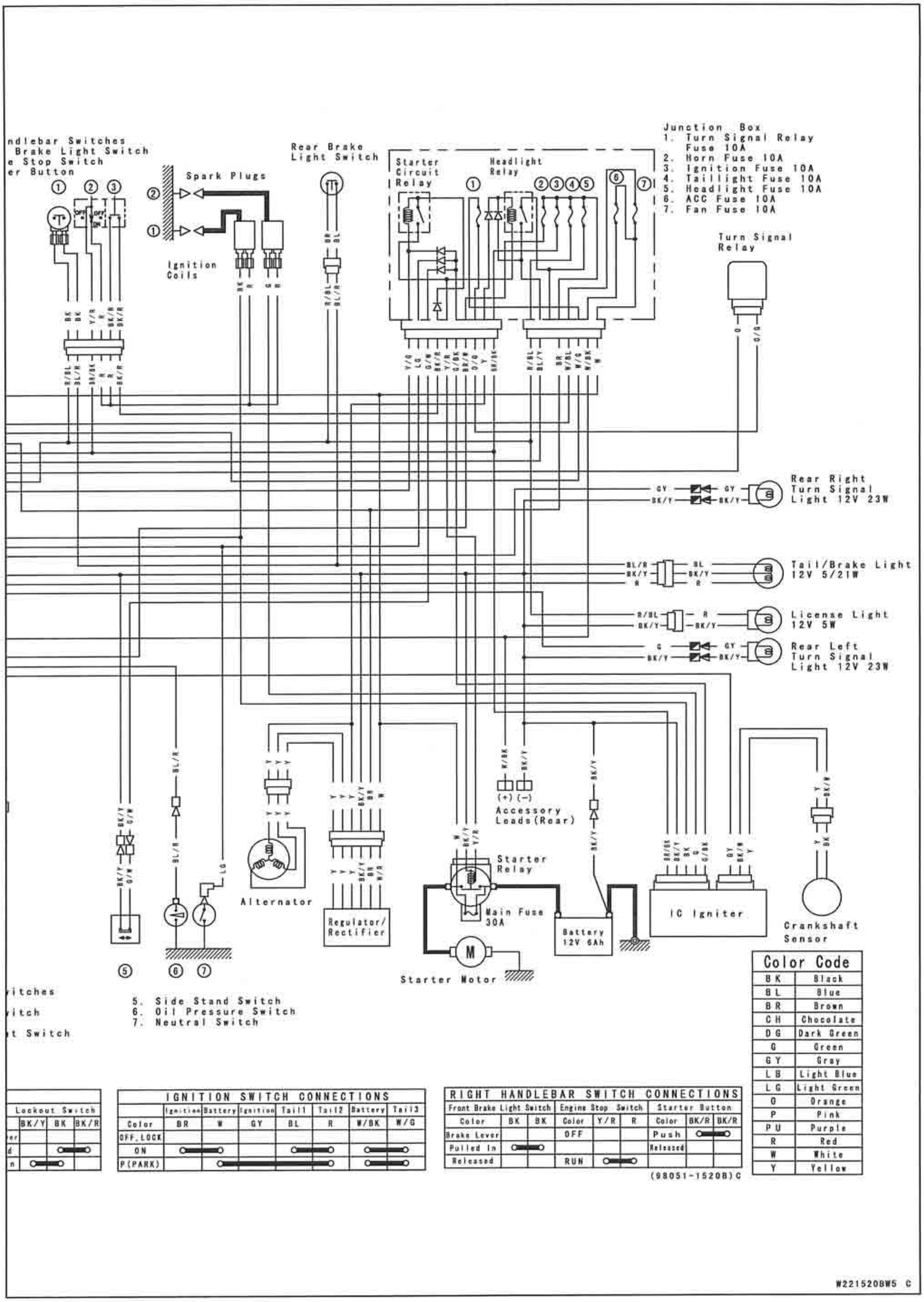


LEFT HANDLEBAR SWITCH CONNECTIONS															
Horn Button			Turn Signal Switch				Dimmer Switch				Starter Lockout Switch				
Color	BK/W	BK/Y	Color	G	O	GY	Color	R/Y	BL/Y	R/BK	Color	BK/Y	BK	BK/R
Push	○	○	R		○	○	LO	○	○		Clutch Lever			
Released			OFF (Push)								Released		○	○
			L	○	○		HI		○	○	Pulled in	○	○	

Colo
OFF, LO
ON
P (PAR

W121520BW5 C

Electrical System



	Lockout Switch		
	BK/Y	BK	BK/R
er			
d		○	○
n	○	○	

IGNITION SWITCH CONNECTIONS							
	Ignition	Battery	Ignition	Tail1	Tail2	Battery	Tail3
Color	BR	W	GY	BL	R	W/BK	W/G
OFF, LOCK							
ON	○	○		○	○	○	○
P (PARK)		○			○	○	○

RIGHT HANDLEBAR SWITCH CONNECTIONS								
Front Brake Light Switch			Engine Stop Switch			Starter Button		
Color	BK	BK	Color	Y/R	R	Color	BK/R	BK/R
Brake Lever			OFF			Push	○	○
Pulled In	○	○				Released		
Released			RUN	○	○			

(98051-1520B) C

Color Code	
BK	Black
BL	Blue
BR	Brown
CH	Chocolate
DG	Dark Green
G	Green
GY	Gray
LB	Light Blue
LG	Light Green
O	Orange
P	Pink
PU	Purple
R	Red
W	White
Y	Yellow

Supplement-2002 ~ 2005 Models

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Foreword

How to Use this Manual

This "Supplement-2002 ~ 2005 Models" designed to be used in conjunction with the front part of this manual (up to 18–5) and/or Base Manual Ninja250R (GPZ250R) Service Manual-Part No.99924–1066–01. The specifications and maintenance procedures described in this chapter are only those that are unique to the EX250–F16 ~ F19 models.

Complete and proper servicing the EX250–F16 ~ F19 models therefore requires mechanics to read both this chapter and the front of this manual.

General Information

General specifications

Items			EX250-F16	EX250-F17 ~ F19
Dimensions:				
Overall length			2 035 mm	
Overall width			710 mm	
Overall height			1 095 mm	
Wheelbase			1 400 mm	
Road clearance			155 mm	
Seat height			745 mm	
Dry weight			138 kg, (CAL) 138.5 kg	
Curb weight:		Front	76 kg	
		Rear	85 kg, (CAL) 85.5 kg	
Fuel tank capacity			18.0 L	
Performance:				
Minimum turning radius			2.8 m	
Engine:				
Type			4-stroke, DOHC, 2-cylinder	
Cooling system			Liquid-cooled	
Bore and stroke			62.0 × 41.2 mm	
Displacement			248 mL	
Compression ratio			12.4	
Maximum horsepower			27.9 kW (38 PS) @ 11 000 r/min (rpm), (US) –, (AU) 27.9 kW (38 PS) @ 12 000 r/min (rpm)	
Maximum torque			24.5 N·m (2.5 kgf·m, 18.1 ft·lb) @ 10 000 r/min (rpm), (US) –	
Carburetion system			Caburetors, Keihin CVK30 × 2	
Starting system			Electric starter	
Ignition system			Battery and coil (transistorized)	
Timing advance			Electronically advance	
Ignition timing			From 10°BTDC @ 1 300 r/min (rpm) to 42°BTDC @ 4 500 r/min (rpm), (CAL) From 5°BTDC @ 1 300 r/min (rpm) to 42°BTDC @ 4 500 r/min (rpm)	
Spark plug			NGK CR8HSA or ND U24FS-U (AU) NGK C8HA or ND U24FS-L	
Cylinder numbering method			Left to right, 1-2	
Firing order			1-2	
Valve timing:	Inlet	Open	30° BTDC	
		Close	70° ABDC	
		Duration	280°	
	Exhaust	Open	70° BBDC	
		Close	30° ATDC	
		Duration	280°	
Lubrication system			Forced lubrication (wet sump)	
Engine oil:	Type		API SE, SF or SG API SH or SJ with JASO MA	
	Viscosity		SAE 10W-40	
	Capacity		1.9 L	

(Continued on next page.)

General Information

Items			EX250-F16	EX250-F17 ~ F19
Drive Train:				
Primary reduction system:	Type		Gear	
	Reduction ratio		3.806 (71/23)	
Clutch type			Wet multi disc	
Transmission:	Type		6-speed, constant mesh, return shift	
	Gear ratio:	1st	2.600 (39/15)	
		2nd	1.789 (34/19)	
		3rd	1.409 (31/22)	
		4th	1.160 (29/25)	
		5th	1.000 (27/27)	
		6th	0.892 (25/28)	
Final drive system:	Type		Chain drive	
	Reduction ratio		3.214 (45/14)	
	Overall drive ratio		8.859 @ Top gear	
Frame				
Type			Tubular, diamond	
Caster (rake angle)			27°	
Trail			83 mm	
Front tire:	Type		Tubeless	
	Size		100/80-16 50S	100/80-16 M/C 50S
Rear tire:	Type		Tubeless	
	Size		130/80-16 64S	130/80-16 M/C 64S
Front suspension:	Type		Telescopic fork	
	Wheel travel		140 mm	
Rear suspension:	Type		Swing arm (Uni-Trak)	
	Wheel travel		130 mm	
Brake type:	Front		Single disc	
	Rear		Single disc	
Electrical Equipment				
Battery			12 V 6 Ah	
Headlight:	Type		Semi-sealed beam	
	Bulb		12 V 60/55 W (quartz-halogen)	
Tail/brake light			12 V 5/21 W	
Alternator:	Type		Three-phase AC	
	Rated output		17A/14V @ 10 000 r/min (rpm)	

Specifications are subject to change without notice and may not apply to every country.

(AU) : Australia
(CAL) : California
(US) : United States

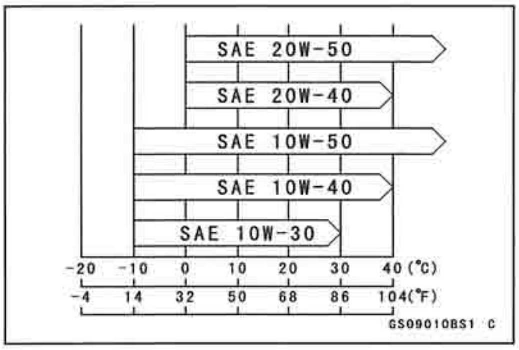
Engine Lubrication System

Specifications

Item	Standard	Service Limit
Engine Oil		
Type	API SE, SF or SG API SH or SJ with JASO MA	—
Viscosity	SAE 10W-40	—
Capacity	1.5 L (when filter is not removed) 1.9 L (when filter is removed)	—
Level	Between upper and lower level lines	—

Engine Oil and Oil Filter

Engine Oil Change



Recommended Engine Oil
Type : API SE, SF or SG
API SH or SJ with JASO MA
Viscosity : SAE 10W-40
Capacity : 1.5 L (when filter is not removed)
1.9 L (when filter is removed)

NOTE

○*Although 10W-40 engine oil is the recommended oil for most conditions, the oil viscosity may need to be changed to accommodate atmospheric conditions in your riding area.*

Wheels/Tires

Specification

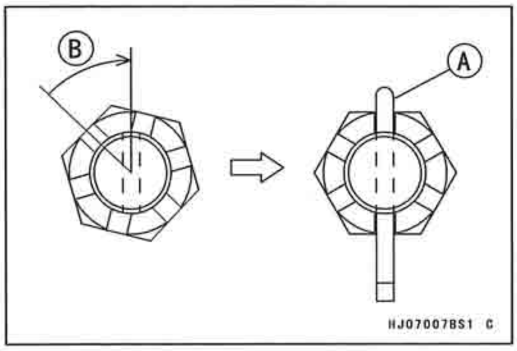
Item	Standard		Service Limit
	EX250–F16	EX250–F17 ~ F19	
Wheel (Rims):			
Rim runot:			
Axial	—		0.5 mm (0.020 in.)
Radial	—		0.8 mm (0.031 in.)
Axle runout/100 mm (4 in.)	Under 0.05 mm (0.0020 in.)		0.2 mm (0.008 in.)
Tires:			
Air pressure (when cold):			
Front	Up to 155 kg (342 lb) load: 200 kPa (2.0 kg/cm^2, 28 psi)		—
Rear	Up to 155 kg (342 lb) load: 225 kPa (2.25 kg/cm^2, 32 psi)		—
Tread depth			
Front	4.4 mm (0.17 in.)		1 mm (0.04 in.)
Rear	6.4 mm (0.25 in.)		2 mm (0.08 in.) [Up to130 km/h (80 mph)] 3 mm (0.12 in.) [Over 130 km/h (80 mph)]
Standard tire:			
Front	100/80–16 50S, Tubeless	100/80–16 M/C 50S, Tubeless	—
	DUNLOP K630F		
Rear	130/80–16 64S, Tubeless	130/80–16 M/C 64S, Tubeless	—
	DUNLOP K630		

Wheel (Rims)

○Install the axle from the left side of the wheel, and tighten the axle nut.

Torque - Rear Axle Nut: 110 N·m (11.0 kgf·m, 80 ft·lb)

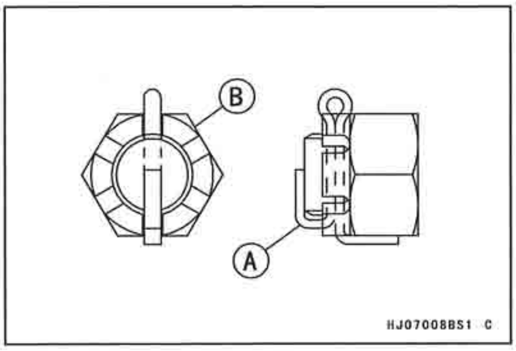
- Insert a new cotter pin [A].



NOTE

○*When inserting the cotter pin, if the slots in the nut do not align with the cotter pin hole in the axel, tighten the nut clockwise [B] up to next alignment.*
○*It should be within 30 degree.*
○*Loosen once and tighten again when the slot goes past the nearest hole.*

- Bend the cotter pin [A] over the nut [B].
- Check the rear brake.



⚠ WARNING

Do not attempt to drive the motorcycle until a full brake pedal is obtained by pumping the brake pedal until the pads are against the disc. The brake will not function on the first application of the pedal if this is not done.

Final Drive

Specifications (EX250-F18 ~)

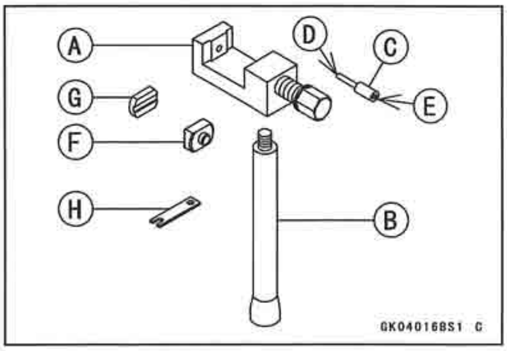
Item	Standard	Service Limit
Drive Chain:		
Make and type	Enuma Endless EK520 SRO_2 106L	– – –

Drive Chain

Drive Chain Replacement

CAUTION

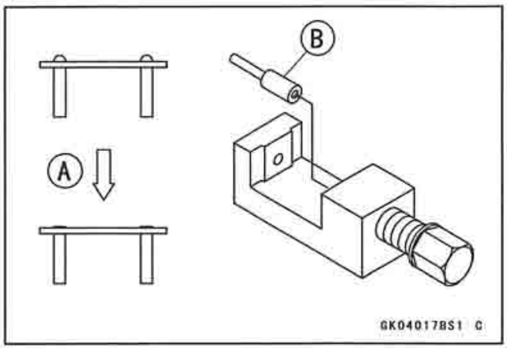
For safety, if the drive chain shall be replaced, replace it using a recommended tool.



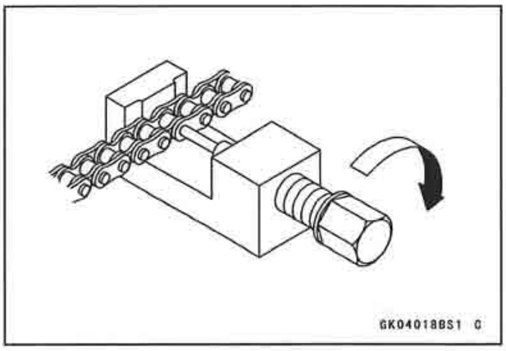
Recommended Tool - Type: EK JOINT Tool #50
Brand: ENUMA

Body [A]
Handlebar [B]
Cutting and Riveting Pin [C]
For Cutting [D]
For Riveting [E]
Plate Holder (A) [F]
Plate Holder (B) [G]
Gauge [H]

- Remove:
  Chain Cover (see Drive Chain Removal)
  Engine Sprocket Cover (see Engine Sprocket Removal)



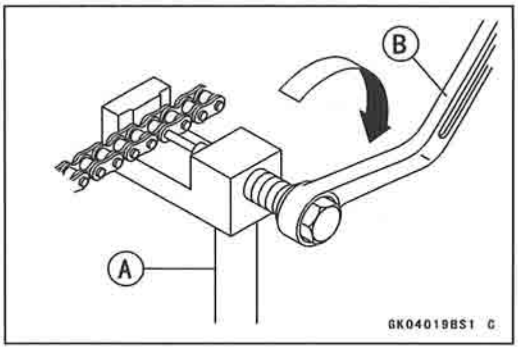
- Grind [A] the pin head to make it flat.
- Set the cutting and rivetting pin [B] as shown.



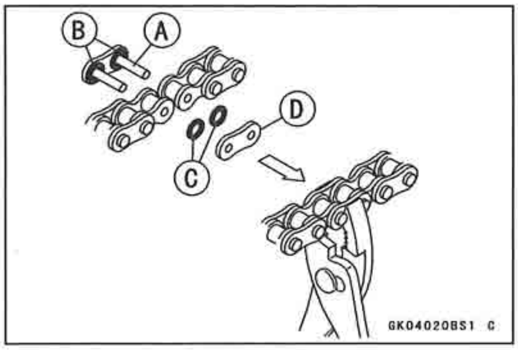
- Screw the pin holder until it touches the link pin.
- Be sure that the cutting pin hits center of the link pin.

Final Drive

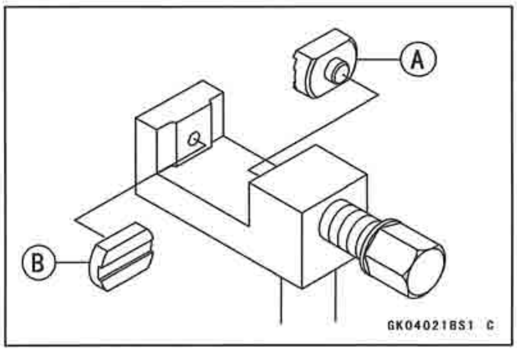
- Screw the handlebar [A] into the body.
- Turn the pin holder with the wrench [B] clockwise to extract the link pin.



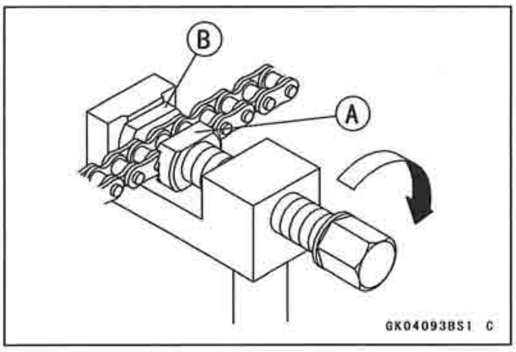
- Replace the link pin, link plate and grease seals.
- Apply grease to the link pins [A] and grease the seals [B] [C].
- Engage the drive chain on the engine and rear sprockets.
- Insert the link pins in the drive chain ends.
- Install the grease seals [C].
- Install the link plate [D] so that the mark faces out.
- Push the link plate by hand or plier to fix it.
- Be sure to set the grease seals correctly.



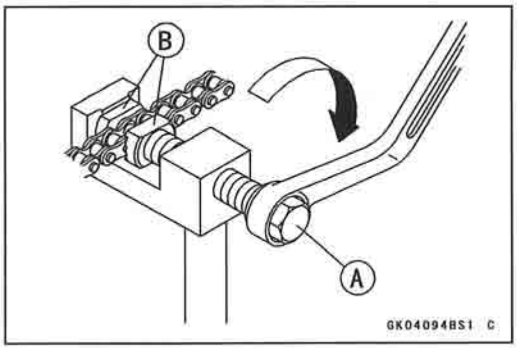
- Set the plate holder (A) [A] and plate holder (B) [B] on the body.



- Fit the plate holder (A) [A] to the link plate.
- Turn the pin holder by hand until the plate holder (B) [B] touches the other link plate.

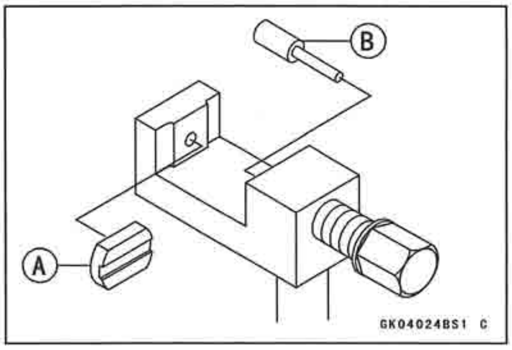


- Turn the pin holder [A] by a wrench clockwise until two pins of link come into groove of the plate holders [B].
- Take off the plate holder.

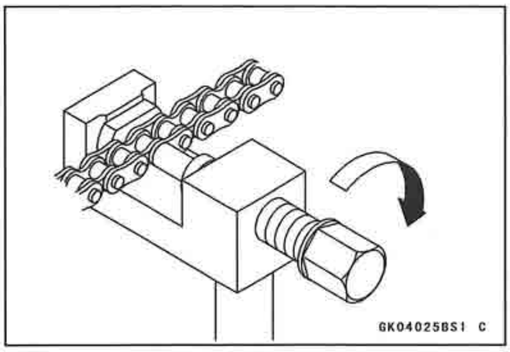


Final Drive

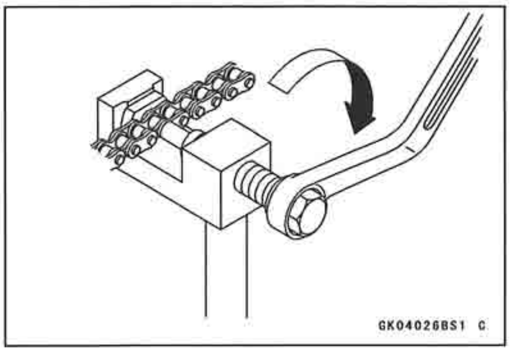
- Set the plate holder (B) [A] and the cutting and riveting pin [B] as shown.



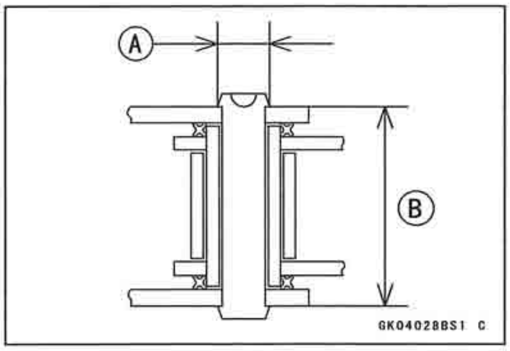
- Turn the pin holder until the rivetting pin touches the link pin.



- Turn the wrench clockwise until the tip of rivetting pin contact with the link pin.
- Rivet it.
- Repeat the same procedure for the other link pin.



- After staking, check the staked area of the link pin for cracks.
- Measure the outside diameter [A] of the link pin and link plates width [B].



Link Pin Outside Diameter
Standard: 5.3 ~ 5.7 mm (0.21 ~ 0.22 in.)

Link Plates Outside Width
Standard: 17.35 ~ 17.50 mm (0.68 ~ 0.69 in.)

★If the reading exceeds the specified length, cut and rejoin the chain again.
- Check:
  Movement of the Rollers
- Adjust the drive chain slack after installing the chain.

Brakes

Specifications (EX250-F17 ~)

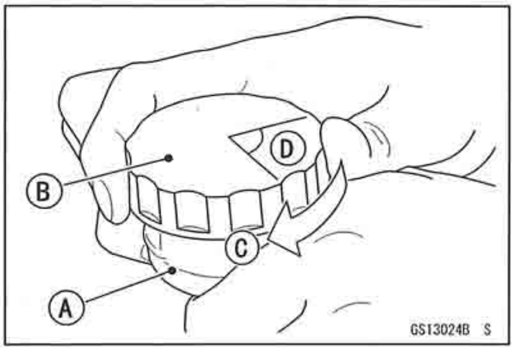
Item		Standard	Service Limit
Brake Fluid Grade		DOT 4	
Front Disc Brake:	Pad Lining thickness	4.5 mm (0.18 in.)	1 mm (0.04 in.)
Rear Disc Brake:	Pad Lining thickness	4.3 mm (0.17 in.)	1 mm (0.04 in.)
	Disc thickness	4.8 ~ 5.2 mm	4.5 mm

Brake Fluid

Brake Fluid Change/Brake Line Bleeding

- Follow the procedure below to install the rear brake fluid reservoir cap correctly.

○First, tighten the rear brake fluid reservoir cap [B] clock -wise [C] by hand until the resistance is felt fully; then, tighten the cap an additional 1/6 turn [D] while holding the brake fluid reservoir [A] body.



Supplement-2006 ~ 2007 Models

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Foreword

How to Use this Manual

This “Supplement-2006 ~ 2007 Model” designed to be used in conjunction with the front part of this manual (up to 19-11) and/or Base Manual Ninja250R (GPZ250R) Service Manual-Part No.99924 -1066-01. The specifications and maintenance procedures described in this chapter are only those that are unique to the EX250F6F/EX250F7F model.

Complete and proper servicing the EX250F6F/EX250F7F models therefore requires mechanics to read both this chapter and the front of this manual.

General Information

General specifications

Items	EX250F6F ~
Dimensions	
Overall Length	2 035 mm (80.1 in.)
Overall Width	710 mm (28.0 in.)
Overall Height	1 095 mm (43.1 in.)
Wheel Base	1 410 mm (55.5 in.)
Road Clearance	155 mm (6.1 in.)
Seat Height	745 mm (29.3 in.)
Dry Weight	138 kg (304 lb), (CAL) 138.5 kg (305 lb)
Curb Weight:	
Front	76 kg (168 lb)
Rear	85 kg (187 lb), (CAL) 85.5 kg (189 lb)
Fuel Tank Capacity	18.0 L (4.8 US gal)
Performance	
Minimum Turning Radius	2.8 m (9.2 ft)
Engine	
Type	4-stroke, SOHC, single cylinder
Cooling System	Liquid-cooled
Bore and Stroke	62.0 × 41.2 mm (2.4 × 1.6 in.)
Displacement	248 cm^3 (15.1 cu in.)
Compression Ratio	12.4
Maximum Horsepower	27.9 kW (38 PS) @11 000 r/min (rpm), (US) –, (AU) 27.9 kW (38 PS) @12 000 r/min (rpm)
Maximum Torque	24.5 N·m (2.5 kgf·m, 18.1 ft·lb) @10 000 r/min (rpm), (US) –,
Carburetion System	Carburetors, Keihin CVK30 × 2
Starting System	Electric starter
Ignition System	Battery and coil (transistorized)
Timing Advance	Electronically advance
Ignition Timing	From 10°BTDC @1 300 r/min (rpm) to 42°BTDC @4 500 r/min (rpm), (CAL) From 5°BTDC @1 300 r/min (rpm) to 42°BTDC @4 500 r/min
Spark Plug	NGK CR8HSA or ND U24FS-U (AU) NGK C8HA or U24FS-L
Cylinder Numbering Method	Left to right, 1-2
Firing Order	1-2
Valve Timing:	
Inlet:	
Open	26° BTDC
Close	66° ABDC
Duration	272°
Exhaust:	
Open	66° BBDC
Close	26° ATDC
Duration	272°
Lubrication System	Forced lubrication (wet sump)

General Information

Items	EX250F6F ~
Engine Oil:	
Type	API SE, SF or SG API SH, SJ or SL with JASO MA
Viscosity	SAE10W-40
Capacity	1.9 L (2.0 US qt)
Drive Train	
Primary Reduction System:	
Type	Gear
Reduction Ratio	3.806 (71/23)
Clutch Type	Wet multi disc
Transmission:	
Type	6-speed, constant mesh, return shift
Gear Ratios:	
1st	(US) 2.600 (39/15), (AU) 2.857 (40/14)
2nd	1.789 (34/19)
3rd	1.409 (31/22)
4th	1.160 (29/25)
5th	1.000 (27/27)
6th	0.892 (25/28)
Final Drive System:	
Type	Chain drive
Reduction Ratio	(US) 3.214 (45/14), (AU) 3.071 (43/14)
Overall drive Ratio	8.465 @Top gear
Frame	
Type	Tubular, diamond
Caster (Rake Angle)	27°
Trail	83 mm (3.3 in.)
Front Tire:	
Type	Tubeless
Size	100/80-16 M/C 50S
Rear Tire:	
Type	Tubeless
Size	130/80-16 M/C 64S
Front Suspension:	
Type	Telescopic fork
Wheel Travel	140 mm (5.5 in.)
Rear Suspension:	
Type	Swingarm (Uni-Trak)
Wheel Travel	130 mm (5.1 in.)
Brake Type:	
Front	Single disc
Rear	Single disc

General Information

Items	EX250F6F ~
Electrical Equipment	
Battery	12 V 6 Ah
Headlight:	
Type	Semi-sealed beam
Bulb	12 V 60/55 W (quartz-halogen)
Trail/Brake Light:	
Bulb	12 V 21/5 W
Alternator:	
Type	Three-phase AC
Rated Output	17 A/14 V @10 000 r/min (rpm)

Specifications are subject to change without notice and may not apply to every country.

(AU): Australia
(CAL): California
(US): United States

Torque and Locking Agent

Parts	Torque			Remarks
	N·m	kgf·m	ft·lb	
Fuel System				
Fuel Tap Mounting Bolts	5	0.51	44 in·lb	with black washer
	2.5	0.25	22 in·lb	with white washer

Fuel System

Specifications

Carburetor	
Make, Type:	Keihin, CVK30
Main Jet::	#105
Main Air Jet:	#100 (AU) #80
Pilot Jet (Slow Jet):	#38
Pilot Air Jet (Slow Air Jet):	#90
Pilot Screw (Turns Out):	(AU) 2 1/8, (US)(CAL) –
Starter Jet:	#52
Needle Jet:	#6
Jet Needle Mark:	N16I (AU) CIQ
Idle Speed:	1300 ±50 r/min (rpm)
Service Fuel Level:	0.5 mm (0.02 in.) below to 1.5 mm (0.06 in.) above from carburetor body mating surface.
Float Height:	17 mm ±2 mm (0.67 ±0.08 in.)
High Altitude Carburetor Specifications (US, CAL):	
	Main Jet: #102 Pilot Jet: #35

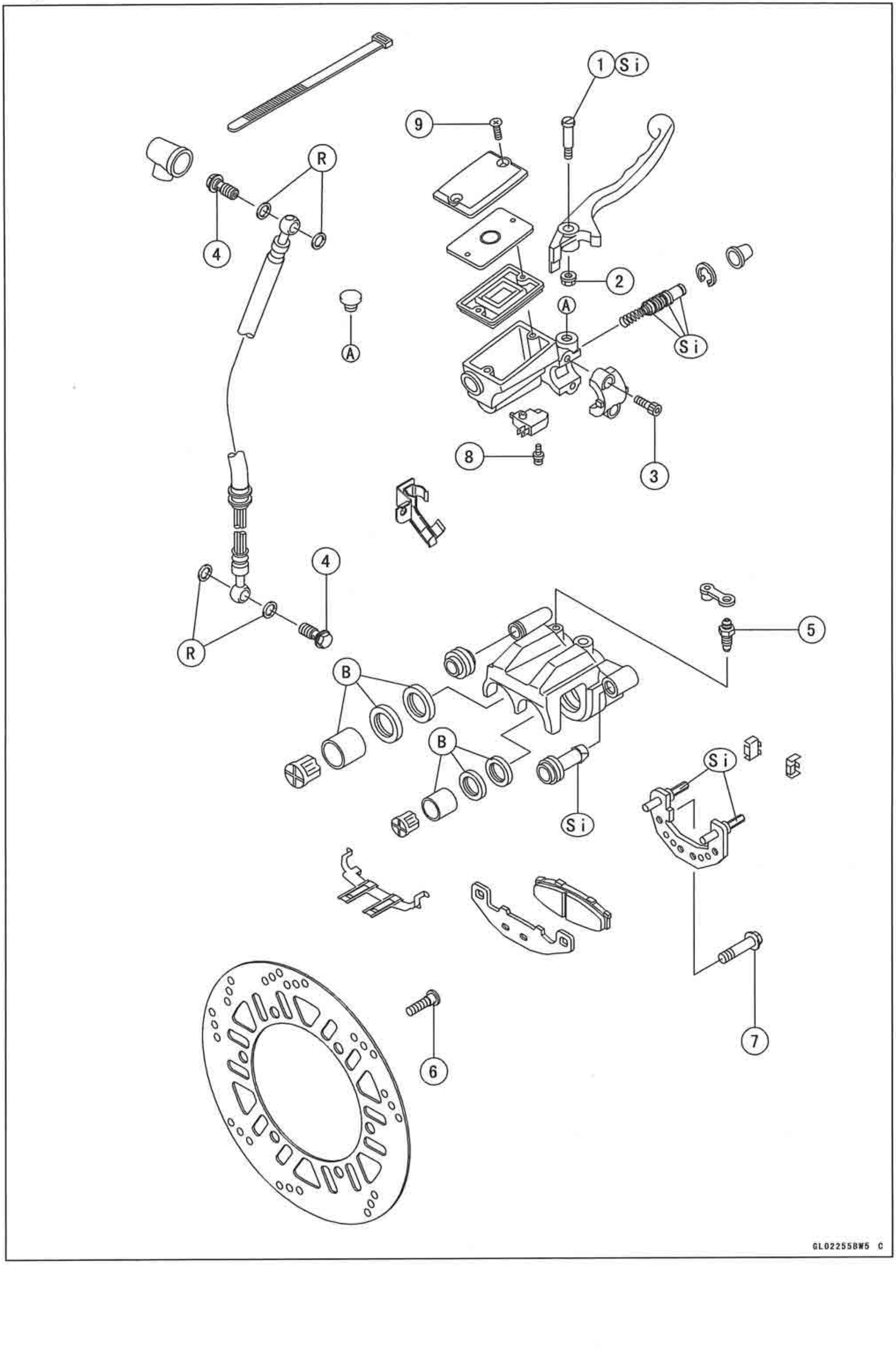
AU: Australia
CAL: California
US: United States

Wheels/Tires

Specifications

Item	Standard	Service Limit
Wheel (Rims)		
Rim size:		
Front	16 × 2.15	– – –
Rear	16 × 2.50	– – –
Rim runot (with tire installed):		
Axial	TIR 0.5 mm (0.020 in.) or less	TIR 1 mm (0.04 in.)
Radial	TIR 0.8 mm (0.031 in.) or less	TIR 1 mm (0.04 in.)
Axle runout/100 mm (4 in.)	TIR 0.05 mm (0.0020 in.) or less	TIR 0.2 mm (0.008 in.)
Tires:		
Air pressure (when cold):		
Front (Up to 155 kg (342 lb) load)	200 kPa (2.0 kg/cm^2, 28 psi)	– – –
Rear (Up to 155 kg (342 lb) load)	225 kPa (2.25 kg/cm^2, 32 psi)	– – –
Tread depth:		
Front	4.4 mm (0.17 in.)	1 mm (0.04 in.)
Rear	6.4 mm (0.25 in.)	2 mm (0.08 in.) [Up to 130 km/h (80 mph)] 3 mm (0.12 in.) [Over 130 km/h (80 mph)]
Standard tire:		
Front (Size)	100/80-16 M/C 50S Tubeless	
(Make, Type)	DUNLOP K630F	
Rear (Size)	130/80-16 M/C 64S, Tubeless	
(Make, Type)	DUNLOP K630	

Exploded View

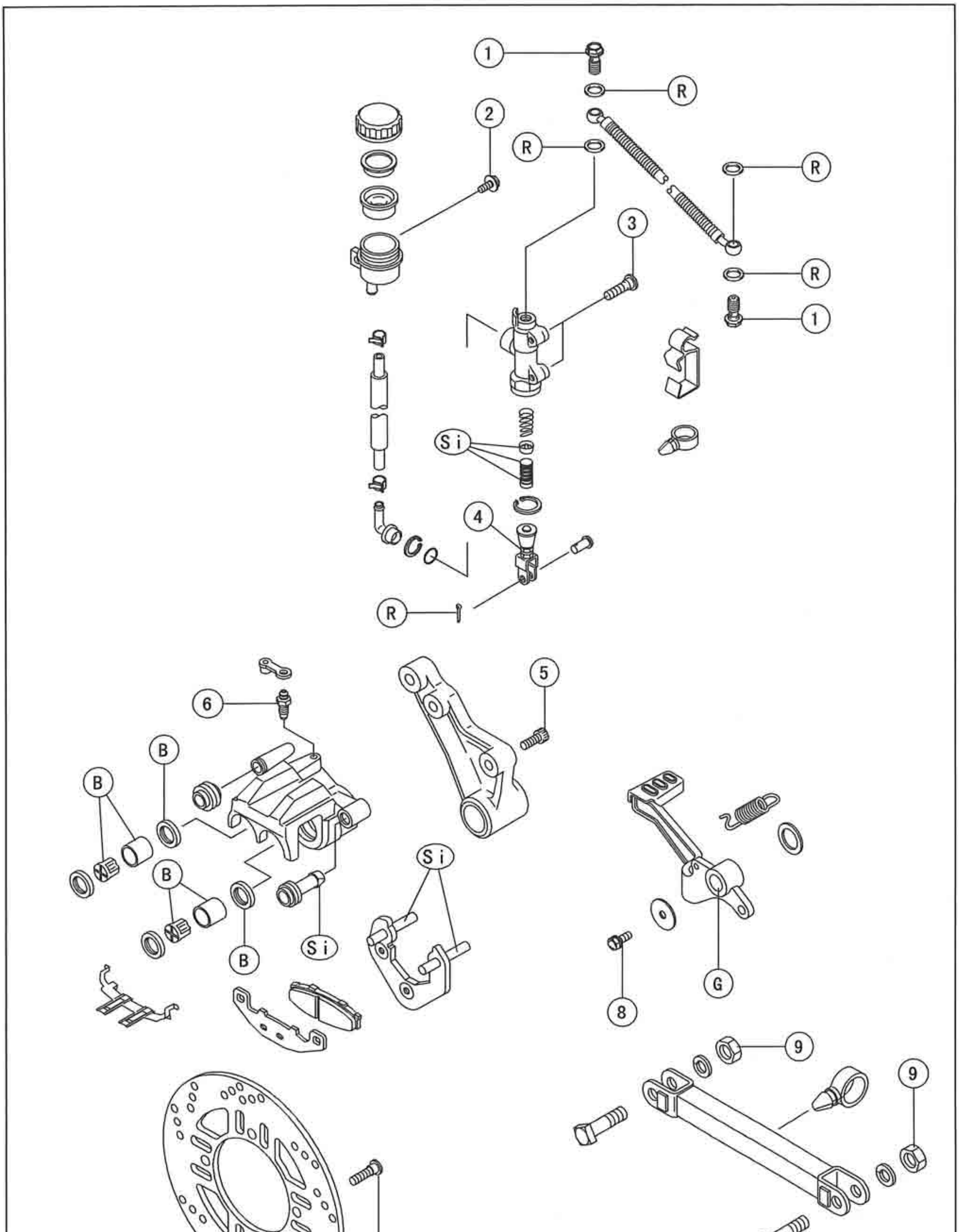


Brakes

No.	Fastener	Torque			Remarks
		N·m	kgf·m	ft·lb	
1	Front Brake Lever Pivot Bolt	1.0	0.1	9 in·lb	
2	Brake Lever Pivot Bolt Locknut	5.9	0.6	52 in·lb	
3	Front Master Cylinder Clamp Bolts	8.8	0.9	78 in·lb	S
4	Brake Hose Banjo Bolts	25	2.5	18	
5	Bleed Valve	7.8	0.8	69 in·lb	
6	Disc Mounting Allen Bolts	23	2.3	16.5	
7	Front Caliper Mounting Bolts	32	3.3	24	
8	Front Brake Light Switch Mounting Screw	1.2	0.12	11 in·lb	
9	Front Brake Fluid Reservoir Cap Screws	1.5	0.15	13 in·lb	

B: Apply brake fluid.
R: Replacement Parts
S: Tighten the fasteners following the specified sequence.
Si: Apply silicone grease.

Brakes



Brakes

No.	Fastener	Torque			Remarks
		N·m	kgf·m	ft·lb	
1	Brake Hose Banjo Bolts	25	2.5	18	
2	Rear Brake Fluid Reservoir Bolt	5.9	0.6	52 in·lb	
3	Rear Master Cylinder Mounting Bolts	23	2.3	16.5	
4	Rear Master Cylinder Clevis Locknut	18	1.8	13	
5	Rear Caliper Mounting Bolts	25	2.5	18	
6	Bleed Valve	7.8	0.8	69 in·lb	
7	Disc Mounting Allen Bolts	23	2.3	16.5	
8	Brake Pedal Mounting Bolt	8.8	0.9	78 in·lb	
9	Torque Link Nuts	32	3.3	24	

B: Apply brake fluid.
G: Apply grease
R: Replacement Parts
Si: Apply silicone grease.

Suspensions

Specifications

Item	Standard	Service Limit
Front Fork (per one unit)		
Fork Inner Tube Diameter	ϕ36 mm (1.42 in.)	– – –
Fork Spring Setting	Non-adjustable	– – –
Air Pressure	Non-adjustable	– – –
Rebound Damper Setting	Non-adjustable	– – –
Compression Damper Setting	Non-adjustable	– – –
Fork Oil Viscosity	SHOWA SS8 or equivalent	– – –
Fork Oil Capacity:		
Completely Dry	268 ±2.5 mL (9.1 ±0.08 US oz)	– – –
when changing oil	230 mL (7.8 US oz)	– – –
Fork Oil Level	205 ±2 mL (8.1 ±0.08 US oz) below from top of inner tube (fully compressed, without main spring)	– – –
Fork Spring Free Length	463.8 mm (18.3 in.)	455 mm (17.9 in.)
Rear Shock Absorber		
Rebound Damper Setting	Non-adjustable	– – –
Compression Damper Setting	Non-adjustable	– – –

US: United States

MODEL APPLICATION

Year	Model	Beginning Frame No.
1988	EX250-F2	JKAEXMF1□JA000001, or JKAEXMF1□JA008946, or EX250-F000001, or EX250F-008946
1989	EX250-F3	JKAEXMF1□KA004604, or JKAEXMF□JA009501, or EX250-F004601, or EX250F-009501
1990	EX250-F4	JKAEXMF1□LA014001
1992	EX250-F6	JKAEXMF1□NA021701, or EX250F-021701
1993	EX250-F7	JKAEXMF1□PA030001
1994	EX250-F8	JKAEXMF1□RA038001, or EX250F-038001
1995	EX250-F9	JKAEXMF1□SA044001, or EX250F-044001
1996	EX250-F10	JKAEXMF1□TA049001, or EX250F-049001
1997	EX250-F11	JKAEXMF1□VA052001, or EX250F-052001
1998	EX250-F12	JKAEXMF1□WA055001
1999	EX250-F13	JKAEXMF1□XA062001
2000	EX250-F14	JKAEXMF1□YA069001
2001	EX250-F15	JKAEXMF1□1A077001
2002	EX250-F16	JKAEXMF1□2A086001
2003	EX250-F17	JKAEXMF1□3A096001
2004	EX250-F18	JKAEXMF1□4DA00001
2005	EX250-F19	JKAEXMF1□5DA07709
2006	EX250F6F	JKAEXMF1□6DA16601
2007	EX250F7F	JKAEXMF1□7DA27401

□:This digit in the frame number changes from one machine to another.

Kawasaki
KAWASAKI HEAVY INDUSTRIES, LTD.
Consumer Products & Machinery Company

99924-1109-66

Part No.99924-1109-66

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